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Politics this week

Dec 12th 2002
From The Economist print edition

Inspecting Iraq's dossier

Reuters

A row erupted over Iraq's 12,000-page **weapons dossier** presented last weekend to the United Nations when America took charge of it, distributing copies to the other four permanent members of the Security Council; only edited versions, purged of the recipes for making atomic bombs, will go to non-permanent members. In Iraq, the inspectors, now numbering 70, intensified their search.

See article: Saddam and the evidence

President George Bush authorised the release of $92m in military assistance to six **Iraqi opposition groups**. Two of the top leaders held talks in Tehran, before a planned meeting of Iraqi dissidents in London this weekend.

See article: Iran and Iraq

A joint congressional committee investigating the September 11th attacks called for the creation of a **national-intelligence director** to prevent future intelligence failures.

The Bush administration published a new strategy document hinting that it might use **nuclear weapons** if its troops or allies were attacked by non-conventional weapons.

Jimmy Carter became the third American president to be awarded the **Nobel prize for peace**. In his acceptance speech he warned of the potentially “catastrophic consequences” of pre-emptive war and urged Iraq to eliminate its weapons of mass destruction.

A **North Korean ship** stopped and searched in the Arabian Sea by Spanish and American warships was found to be carrying Scud missiles, warheads and chemicals. After a diplomatic hoo-ha, these were found to be legal purchases by Yemen's government.

See article: Now two rogues challenge Bush

Student politics

Iranian students continued to hold almost daily demonstrations against the death sentence passed on Hashem Aghajari, a liberal academic. A lecture by a liberal politician was disrupted by the ultra-conservative *basij* militia, who stormed the building.

Yasser Arafat said **Palestinian general elections**, scheduled for January 20th, would be postponed if the Israeli army did not withdraw from Palestinian areas.

A presidential aide in **Côte d'Ivoire** asked for western military intervention to end the country's three-month-old civil war. Thousands of young Ivorians volunteered to fight for the government against two rebel groups which control half the country.

A general strike in **Zimbabwe** flopped. Opposition groups were hoping to protest at Robert Mugabe's violent misrule, but workers were too scared of losing their jobs and starving, so most went to work.

At the summit

At the **EU's Copenhagen summit** starting on December 12th, ten countries, mainly from Central Europe, were expected to be formally invited to join the club, probably in mid-2004.

See article: Europe prepares to make history

The EU prepared to offer **Turkey** a starting date in 2005 for membership negotiations, but only if it met human-rights criteria by late 2004.

The UN sent the rival sides in **Cyprus** a revised peace plan, hoping they would accept it as a negotiating basis before the EU summit was over.

In **Italy**, the rectors of 78 public universities sent a joint letter of resignation, in protest against a funding cut proposed in the budget now before parliament.

Contrary to expert forecasts, heavy oil continued to leak from the **tanker** *Prestige*, sunk in deep water off the coast of Spain. The government, hit by fierce criticism, speeded up its sluggish efforts against the oil slicks.

Yet again, the presidential election in rump-Yugoslavia's **Serbian republic** came to nothing. The Yugoslav president, Vojislav Kostunica, came in (yet again) in the lead. But turnout was less than 50%, so under the constitution the election does not count.

Germany's cabinet approved a bill that would let shops stay open until 8pm, instead of 4pm, on Saturdays.

In France, Jewish groups called for a ban on a novel, “Dreaming Palestine”, said to glorify **suicide bombers.**

Arms for autonomy

Indonesia's government and separatist rebels in Aceh province signed a peace deal which could end almost three decades of fighting. The deal grants autonomy and free elections to Aceh in exchange for the rebels' disarming.

Anti-American protests were sparked in **South Korea** by the acquittal in a military court of two American soldiers charged with the negligent homicide of two South Korean teenagers crushed by an armoured vehicle. Protests still raged during a visit by Richard Armitage, America's deputy secretary of state, who travelled to Seoul for talks on North Korea and Iraq.

AP

See article: South Korea's election

North Korea said that it was ending an eight-year freeze on its plutonium-producing reactors after a recent admission of enriching uranium caused America, South Korea, Japan and the EU to suspend oil supplies to the country.

India's government deployed 90,000 troops in the western state of Gujarat, ahead of elections planned on December 12th. In February, an attack on a train in which 58 Hindus were killed led to months of communal violence, mostly against Muslims.

Strike action

AP

A general strike aimed at forcing President Hugo Chavez to resign or call an early election continued for a second week in **Venezuela**. Oil production was restricted, and ports and airports were close to a standstill. Three people

were killed when a gunman fired on an opposition demonstration.

See article: The pressure mounts on Chavez

During a visit to Washington, where he saw George Bush, Luiz Inacio Lula da Silva, **Brazil's** president-elect, indicated that his finance minister would be Antonio Palocci, a physician and former mayor from his Workers' Party, with a reputation as a fiscal hawk.

See article: Brazil's new president

After two years of talks, the **United States** and **Chile** concluded a bilateral free-trade deal.

Alfonso Prat-Gay, a 37-year-old banker, became **Argentina's** fourth central-bank governor this year, replacing Aldo Pignanelli, who resigned after clashing with Roberto Lavagna, the economy minister.

Authorities in **Colombia** said that they had defused five large car bombs and foiled an attempt to assassinate President Alvaro Uribe.

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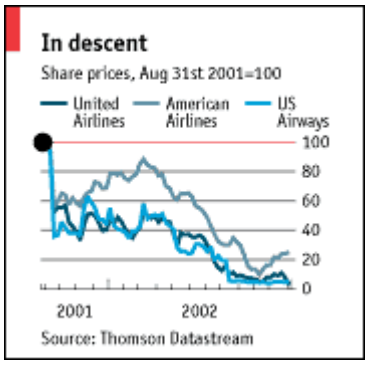
Business this week

Dec 12th 2002
From The Economist print edition

Hard landings



United Airlines, America's second-largest airline, filed for Chapter 11 bankruptcy protection, with debts estimated at some $20 billion. The airline is likely to announce a more aggressive cost-cutting drive than its earlier effort, which failed to secure a $1.8 billion federal loan guarantee.

See article: Into bankruptcy

American Airlines, America's biggest, asked staff to forgo next year's pay rises to save $130m. The airline wants to save some $3 billion annually to stay competitive and avoid the fate of United.

Pilots at **US Airways** reached a tentative agreement on pay cuts that would save the airline $100m a year. The airline filed for bankruptcy protection in August and hopes to finalise a $1 billion federal loan guarantee later this month.

See article: Who will be next to go bust after United?

The European Commission ordered Greece's **Olympic Airways** to repay *euro*194m ($196m) in state aid that fell foul of European competition rules. Olympic plans to appeal.

Shares in **BAE Systems** fell to a seven-year low, after the defence group gave warning of problems over two big contracts for Britain's defence ministry. BAE has issued a series of profit warnings this year.

Snow settles in

Paul O'Neill, America's outspoken **treasury secretary**, fell victim to a faltering economic recovery. He resigned after an announcement that unemployment had hit 6%. George Bush handed the task of talking up the economy in the run-up to the 2004 elections to John Snow, a transport boss.

See article: An economic coup in Washington

Mr Bush chose William Donaldson, a family friend and a well-known figure on Wall Street, to head the **Securities and Exchange Commission,** after the resignation of Harvey Pitt at the beginning of November.

See article: A new head for the Securities and Exchange Commission

The phoney war

BNP Paribas asked regulators to allow it to raise its 16.3% stake in **Crédit Lyonnais** to a maximum of 20% and talked down the likelihood of a bidding war for the bank against **Crédit Agricole**. Meanwhile, Crédit Agricole stepped up its campaign for control of Crédit Lyonnais by increasing its stake to 17.4%.

The **London Stock Exchange** and **OM Gruppen**, operator of Sweden's stock exchange and an erstwhile suitor of the LSE, rekindled their relationship. OM's unwelcome advances of two years ago gave way to

more modest plans for a joint-venture derivatives exchange, EDX London, which will take on Euronext.liffe and Deutsche Börse's Eurex.

See article: The London Stock Exchange is going for smaller fish

Bank of America spent $1.6 billion for a 25% stake in the Mexican unit of Spain's Santander Central Hispano, in an effort to tap the growing and increasingly rich Spanish-speaking market in America.

Restoring Fiat

Gabriele Galateri quit as chief executive of **Fiat Auto**, as the embattled car company embarked on deep job cuts. Doubts persisted over the future of Paolo Fresco, Fiat's chairman, as the Italian government, the founding Agnelli family and the company's banks considered a rescue plan that might include scrapping an option to sell Fiat Auto to General Motors.

See article: One cock-up after another

Regulatory opposition led **EchoStar Communications**, America's second-biggest satellite-TV company, to call off its $18 billion purchase of the biggest, **Hughes Electronics**. Rupert Murdoch's News Corp, which fought hard against the deal, may now renew its interest in Hughes.

America's antitrust authorities allowed **Northrop Grumman** to proceed with its $6.7 billion acquisition of **TRW**, an aerospace and car-parts firm. The defence contractor has deals to sell parts of the business that it doesn't care for, including the car-spares arm.

A rude awakening

Cable & Wireless shares plummeted by 43% after a downgrading of its debt rating to junk status. It had revealed an agreement to indemnify Deutsche Telekom to the tune of £1.5 billion ($2.4 billion) against taxes incurred as a result of DT's purchase of One2One, a mobile-phone company. Pressure to quit mounted on C&W's chief executive, Graham Wallace.

See article: Accounting questions at Cable & Wireless

Nokia said that handset sales in the fourth quarter would barely exceed last year's *euro*8.8 billion ($7.9 billion), sending its shares down and causing a ripple of dejection to hit the shares of both its rivals and its suppliers.

Michael Capellas, newly appointed chief executive of **WorldCom**, may be set for an early pay cut. A monitor appointed by the bankruptcy court described a package worth up to $5m as “grossly excessive”, having previously resisted a stock-option package worth some $12m. WorldCom signalled that it would stand by the deal at a court hearing later this month.

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Iraq's weapons of mass destruction

Seeing through Iraq

Dec 12th 2002
From The Economist print edition

If George Bush wants help in a war against Iraq, he must show that the Iraqi dictator is a liar

Get article background

EPA

SO IS the United States going to invade Iraq or not? It will take time, American officials have been soothing all week, to sift through the 12,000 pages which Iraq has now produced in accordance with last month's Security Council Resolution 1441 demanding “a currently accurate, full, and complete” declaration of all aspects of its programmes to develop chemical, biological and nuclear weapons. For understandable reasons, the Americans do not want to give the impression that they are so intent on waging war against Saddam Hussein that they are rushing to judgment, caring nothing for the evidence. Still, these 12,000 pages are not likely to be a suspenseful read. For Iraq has already given away the ending. Even as it handed the documents over, it stated once again that it does not possess, and is no longer seeking, any weapons of mass destruction.

The limits of trust

This assertion flatly contradicts the assessment of both the American government and, according to Donald Rumsfeld, America's defence secretary, the assessment of any country that has an active intelligence programme. The British, who did a similar job when many people still doubted al-Qaeda's responsibility for the felling of the twin towers, have been especially forthcoming in setting out the evidence. In September, Tony Blair published a dossier on Iraq's weapons efforts. The prime minister said he had intelligence putting it “beyond doubt” that “Saddam has continued to produce chemical and biological weapons, that he continues in his efforts to develop nuclear weapons, and that he has been able to extend the range of his ballistic missile programme.” Some of the British claims were highly specific. The dossier said, for example, that Iraq has continued to produce biological and chemical agents, retained up to 20 al-Hussein missiles capable of carrying chemical and biological warheads, and sought “significant quantities” of uranium in Africa, despite having no active civilian nuclear-power programme that could require it.

If George Bush and Tony Blair say that Saddam Hussein is still seeking weapons of mass destruction, and Saddam says he isn't, who deserves the benefit of the doubt? Given the Iraqi dictator's history of systematic mendacity, especially his well-documented and largely successful attempts to deceive the previous lot of UN inspectors, who withdrew from Iraq in 1998, the elected leaders of America and Britain may feel entitled to find such a question insulting. In formal terms, moreover, the UN's various resolutions put the onus on Iraq to prove that it has disarmed, not on others to prove that it hasn't. All the same, that does not relieve America and Britain from a political obligation to prove their case.

If George Bush and Tony Blair say that Saddam Hussein is still seeking weapons of mass destruction, and Saddam says he isn't, who deserves the benefit of the doubt?

Part of the beauty of democracy is that elected governments cannot launch a war on a mere “trust me” and expect their voters to snap to attention. In the case of war against Iraq, a hazardous undertaking with unforeseeable consequences, plenty of people in the western democracies are willing if not eager to believe that their leaders are knaves, or that their spies are fools, and that the whole case

against Iraq has been trumped up under false pretences. Allied governments also need persuading. If Mr Rumsfeld is right, France's Jacques Chirac, Russia's Vladimir Putin and America's Arab allies know perfectly well via their own spies that Saddam continues his quest for the sort of weaponry the UN has decreed he is not allowed to have. Under Resolution 1441, indeed, any country that possesses such intelligence is obliged to share it. But in the real world, France, Russia and the Arabs are queasy about war in Iraq. If Mr Bush wants their support, and whatever the legal position may be, the onus is now on America and Britain to produce the incriminating evidence.

This they will doubtless do, once they have had time to inspect Iraq's 12,000 pages. But the next vexing question will turn on the required standard of proof. In an ideal world, the evidence would be as “beyond doubt” as Mr Blair has claimed it is. It is not impossible that, at an appropriate moment, American or British intelligence will guide the UN's inspectors to a hidden cache of forbidden missiles, or an underground weapons lab. On the other hand, some of the recent mood music from official Washington points in a less satisfactory direction. Perhaps the evidence will consist only of a finding that Iraq has not explained adequately what happened to the lethal stuff it was believed to have retained in 1998 when the previous inspectors left: hundreds of tonnes of precursor chemicals for the production of VX nerve gas, for example, and more than 30,000 special munitions for delivering biological and chemical agents. Or perhaps the only evidence the Americans offer will be circumstantial: a scrap of intelligence here, another there, suggesting a pattern of cheating but producing no mass-destruction equivalent of a smoking gun.

Perhaps the evidence will consist only of a finding that Iraq has not explained adequately what happened to the lethal stuff it was believed to have retained in 1998 when the previous inspectors left

The spooks' hour in the sun

One point is obvious. The closer the evidence comes to this weaker end of the spectrum, the harder it is going to be for America to collect allies for a war. Mr Bush can argue that intelligence sources must be protected and that Iraq is a totalitarian country whose secrets are hard to ferret out. These things are true. But repeating this mantra until he is blue in the face will not help to win the propaganda war if the evidence he produces looks flimsy. Intelligence, plainly, is a rum game; if Mr Blair, for example, had disclosed his full hand in that September dossier, Iraq would swiftly have moved any illicit programme Britain fingered. On the other hand, if Saddam is the danger he is said to be, his weaponry should have been the object of intensive scrutiny for more than a decade. Most people will expect the combined efforts of the CIA, Mossad, British intelligence and others to have come up with something fairly concrete after all these years. If these outfits have failed, nobody should expect the small band of UN inspectors, playing cat and mouse in the vastness of Iraq, to succeed in their stead.

What does all this tell you about the likely sequence of events? Mainly that war could begin very soon.

Much is sometimes made of the difficulties of fighting in the desert heat, which starts in March. But the principal argument for haste has more to do with momentum than with the weather. There is little more that America can now do to steady its allies. And by choosing to work through the Security Council, offering Iraq a final chance to come clean about its weapons, Mr Bush put himself in the position of having to respond once Saddam answered. Hans Blix, for the inspectors, has yet to deliver his own verdict on whether Iraq is co-operating. But the main news is in: Saddam's answer to this final chance is to deny having forbidden weapons. Since neither the Americans nor the British believe this, the logical next step is to reconvene the council as they promised, show that Saddam is lying, and—though both countries deny that they need this legally—seek support for disarming Iraq by force.

The principal argument for haste has more to do with momentum than with the weather

When they ask for support, will they receive it? Almost everything now depends on the quality of the evidence. Though none of the other permanent members of the Security Council wants a war, none would find one easy to obstruct if it were plain that Iraq had again spun a tissue of lies. By the same token, a move to war based on weak evidence will be a lonely and unpopular affair. If Britain and America did not have the hard dope to convict Iraq, they should never have taken an approach that turns on a battle of dossiers.

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American economic policy

After the Friday massacre

Dec 12th 2002
From The Economist print edition

George Bush's financial team will now be led by John Snow and William Donaldson. How well?

Reuters

Get article background

WHO said George Bush ran a cosy good ol' boys club for elderly white bosses at the White House? In what has become known as the “Friday Morning Massacre”, the president sent his henchmen to sack the two most prominent members of his economic-policy team—Paul O'Neill, his treasury secretary, and Larry Lindsey, the chairman of the National Economic Council (see article). Now he has unveiled John Snow, a railroad tycoon, as his prospective new treasury secretary. Meanwhile a veteran Wall Streeter, William Donaldson, will replace Harvey Pitt, the chairman of the Securities and Exchange Commission (SEC), who was persuaded to resign last month. And Stephen Friedman, late of Goldman Sachs, is the president's choice to head the NEC.

The bloodletting makes sense. A blunt veteran of the aluminium business, Mr O'Neill was a clever and thoughtful student of policy. But the job of treasury secretary is as much about presentation as about policy, and Mr O'Neill made the sort of gaffes, about the dollar and about international bail-outs, that lead markets to swerve. Mr Lindsey, a decent economist, proved a poor back-room co-ordinator. Mr Pitt seldom seemed to instigate corporate reform.

Different is good, better is best

More generally, Mr Bush's savagery has sent a clear political signal. The president intends to avoid the same trap that snared his father: George Bush senior lost the presidency when voters decided his foreign successes were less important than the creaking economy. And let there be no doubt: Bush the younger clearly does have economic problems. Recent figures offer some hope that America will not undergo a double-dip recession, but a lot depends on the resilience of the country's indebted shoppers. The economy is still coming to terms with the bursting of the 1990s bubble. And, despite the Sarbanes-Oxley act, the corporate-reform package that Mr Bush belatedly signed into law, the White House has usually seemed on the side of bosses, not shareholders.

For nearly two years it has never really been clear who is Mr Bush's chief economic spokesman

So a regime change of sorts is justifiable—but only, of course, if the new regime is a better one. It is too soon to say whether it will be. Mr Snow has a PhD in economics, but his main experience is of a long career in an uncompetitive industry. Mr Donaldson co-founded Donaldson, Lufkin & Jenrette back in 1959, so he is long in the tooth, but that may helpfully mean that he retired before Wall Street got up to its recent mischief. Mr Friedman too left conveniently before the bubble: he ran Goldman Sachs until 1994 (partly with Robert Rubin, Mr Clinton's treasury secretary). All three men may have trouble in the vetting process—something that has got noticeably (and correctly) more rigorous for tycoons since the Enron scandal.

Even if Mr Bush has chosen the right people, he also needs to redesign the structure. For nearly two years it has never really been clear who is Mr Bush's chief economic spokesman. Over at the SEC, Mr Bush still has to find somebody to fill the crucial top accounting position. And there remains the question of political interference. Many of the worst mistakes made so far by Mr Bush's economic team—such as

the steel tariffs and farm subsidies—have come from overt meddling by the president's electoral advisers.

Above all, Mr Bush's new team cannot simply “mend” the economy. Many levers are out of their control—notably monetary policy, which is set by the Federal Reserve. Others are extremely delicate to operate. It is a truism, for instance, to say that international financial institutions work best with strong American leadership. Mr O'Neill's successors need to avoid his various volte-faces (first no support for IMF bail-outs, then massive bail-outs), but also to find ways to influence countries such as Brazil and Argentina without alienating them.

Mr Snow must play a role alongside Mr Donaldson in reinvigorating corporate reform, but his real test will probably be domestic fiscal policy. There remains a case for a short-term stimulus to perk up the economy. But the Treasury desperately needs to rein in congressional pork: discretionary spending has been rising by 8% a year. Mr Snow must also keep an eye on the millions of retiring baby boomers who will begin to place enormous demands on the government within a decade. That means looking at tax reform (one of Mr O'Neill's strengths) and restructuring the Social Security system (which Mr Bush seems to be considering again).

This is a big challenge. But give Mr Bush a little credit. After his triumph in the mid-term elections, it must have been tempting to overlook the shortcomings in his financial team. The Friday Morning Massacre may have replaced one set of pals with another, but the new lot will now be sweating.

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Chaos in Venezuela

The rights and wrongs of Chavez

Dec 12th 2002
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An elected leader, but one who has lost his legitimacy

AP

PORTS, airports and banks are barely functioning, troops have been called out to pump petrol, strike-bound oil tankers lie at anchor, and exports have all but ceased. As a general strike called by opponents of President Hugo Chavez continued for a second week, Venezuela was grinding to a halt. The opposition says the strike will continue until Mr Chavez either resigns or agrees to an election early next year. So far, the president has seemed unmoved. He was elected in 1998, and again for a six-year term under his own constitution in 2000. In April, he survived an opposition-inspired coup (which the United States was lamentably slow to condemn). This strike, he says, is merely another coup attempt.

The chaos in Venezuela is more than a little local difficulty. It has already claimed several lives, and worse violence could follow (see article). As the world's fifth-largest oil exporter, and a neighbour of violence-torn Colombia, Venezuela's woes matter to outsiders. But what should outsiders do? Normally, the answer would be nothing. Mr Chavez is democratically elected, whereas some of his opponents showed in April that they are not democrats. Shouldn't an elected president be free to govern as he pleases?

This is an over-simple reading of events. For Mr Chavez, a former army officer and coup plotter, has begun to rule in a way that undermines his own legitimacy. Though his “Bolivarian revolution” has been marked chiefly by devastating incompetence, not illegality, he has concentrated power in his own hands and those of his cronies, while hurling bombast and threats at his opponents. This penchant for government by permanent confrontation has reaped its predictable reward. Even before the strike, the economy was set to shrink by 6% this year. Unemployment was 17% and inflation rising. Meanwhile, Mr Chavez's efforts to turn the army into an instrument of “revolution” have divided and politicised it.

The result has been to earn the president the opposition of almost every organised group in the country and, according to opinion polls, more than 70% of Venezuelans (including many of his former supporters among the poor). It is a travesty to compare Mr Chavez with Chile's elected socialist, Salvador Allende, and the opposition with General Pinochet, as his apologists would have it. The truth is that, as opposition has grown, Mr Chavez has started to disregard his constitution. For example, he seized control of the Caracas police, and his legislators voted to sack a supreme court judge. Gunmen who may be inspired by the government have fired on demonstrators and pro-Chavez mobs have trashed media offices.

A second reason for Mr Chavez to agree to an early vote is his own proud claim that Venezuela is a “participatory democracy” in which sovereignty resides with the people. To this end, he masterminded a constitution that allows a “consultative” referendum on matters of “national transcendence” at any time. In accordance with this, the opposition has gathered the necessary signatures for an immediate referendum on the president's rule. Mr Chavez has manoeuvred to block this.

Now the opposition is unlikely to settle for anything less than a fresh election. Having made his country ungovernable, Mr Chavez should call one. For weeks, the Organisation of American States has been trying to mediate an “electoral solution” to Venezuela's stand-off. Its efforts deserve wholehearted support—from Latin America as well as the United States. The alternative might be a bloodbath.

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Bankruptcy

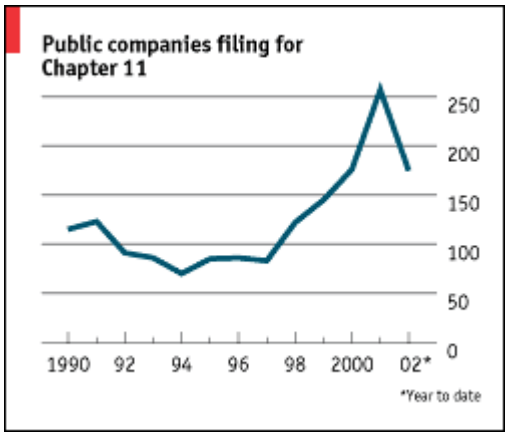
Shaping up

Dec 12th 2002
From The Economist print edition

In general, America's Chapter 11 bankruptcy is working well

AMERICAN bosses have bankrupted companies in record numbers this year, surpassing even 2001's total. But most of the biggest failed firms have not gone bust in the old-fashioned sense, with doors boarded up and shop-floors cleared out. Instead, thanks to America's Chapter 11 bankruptcy law, these “zombie” companies trade on, with fresh loans, freedom from interest and lease payments, and, often, the same bosses who ran them into the ground. United Airlines, America's second-biggest carrier, which sought the safe haven of Chapter 11 this week, will continue to fly even though it has failed.

Such examples are often cited by critics of Chapter 11, who say it is too lenient. Unsound companies are kept alive at the expense of solvent and better-managed rivals, tilting the playing-field in favour of the zombies. Excess capacity is kept going, rather than shut down. Liquidation not rehabilitation, the critics conclude, should be the outcome of more bankruptcies. In truth, Chapter 11 may create some anomalies and injustices, and today's widespread use of it may offer helpful lessons. But in broad terms, the critics are wrong; a worse problem, outside America, is that ailing firms are either put down too soon or kept alive only by state subsidy.



Of all America's troubled industries, airlines have been the most enthusiastic users of Chapter 11. Some have stayed aloft through years of bankruptcy; others have gone bust again and again. But critics often forget the successes: Continental, which went bust twice, has emerged a strong and profitable airline. United's bankruptcy was triggered by its failure to secure subsidised loans from America's government. A private restructuring under Chapter 11 is surely a better way forward: shareholders and creditors bear the risk of failure, not the government. Many of the complainers about United's bankruptcy are other airlines that have benefited from years of government help in one form or another.

The argument goes way beyond airlines. From telecoms to steel, bosses complain loudly that Chapter 11 fails to purge excess capacity (see article). But this is mostly just the whingeing of managers forced to compete. After all, plants can be idled, cable go unlit or airliners be left in the desert, but the assets never go away, and they are available for new buyers to snap up. When private investors risk their own money to revive a failed firm, almost everybody wins: consumers, employees and creditors. Only the original shareholders lose.

A more valid criticism of Chapter 11 is that it too often allows failed managers to keep their jobs. It would be better to give creditors (and bankruptcy judges) more powers to throw them out. A study by Stuart Gilson of Harvard Business School has shown that 80% of bosses are gone within two years of a Chapter 11 filing. That could be pushed nearer 100%. Bankruptcy judges should also question more sharply the longer-term viability of companies in Chapter 11, and be readier to let the market take its course more quickly: keeping a firm in Chapter 11 for more than a year, say, is unlikely to be wise.

Overall, then, Chapter 11 is a good way to harness market forces rather than government intervention to fix bust companies. That is more than can be said of other countries' laws, even though some are moving in the right direction. Britain is revising its law in a bid to make bankruptcy less punishing for entrepreneurs. Germany is making use of a new insolvency law to keep companies alive as they undergo badly needed restructuring—without government help. Japan's banks and industrial giants could use a

way to fail without shutting down productive assets. Italy's government should be ready to leave Fiat's fate to the markets, rather than intervene (see article). For salvaging ailing firms, the Chapter 11 model, with all its faults, is better than the alternatives.

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Retirement

Bin it

Dec 12th 2002
From The Economist print edition

A fixed retirement age is an anachronism

COMPARED with much of the rest of the rich world, Britain has been provident. While so many other countries are lumbered with huge, unaffordable state pension benefits paid from taxes on workers, Britain has done relatively well in building up funded occupational and personal plans. But even so there are growing worries: many companies are trimming their pension commitments, which threatens to push the burden back on to the state. Such concerns have led to a government review of pensions policy, which is due to be published next week. The signs are that this will merely tinker with the system, not give it the radical overhaul it needs.

All around the world, pension systems are showing their age. One of the most obvious anomalies is the survival of the venerable tradition of retiring at 65. This affects not just state but also company pensions, since the state retirement age sets a benchmark for the private sector. As people live longer the retirement age is contributing directly to the rising burden of paying final-salary pensions, based on end-of-career earnings and years of service, and therefore to the number of companies moving away from these schemes. And it affects retirement patterns even in countries like America, where mandatory retirement has generally been outlawed, since the workers tend to take pension benefits as soon as possible—many earlier than 65.

Yet the idea of retiring at 65 is astonishingly out-of-date. In Britain, this age was originally set in 1925. Since then, life expectancy at 65 has increased by five to six years. Today's 65-year-olds are no longer worn out after a life of manual toil. They are in good health and there are plenty of physically undemanding jobs for them to do. Tomorrow's older people, for whom current pension reforms should be designed, will live even longer and be even healthier.

Today's 65-year-olds are no longer worn out after a life of manual toil

If people are retiring too early, why not just raise the retirement age? Because politics make that so hard to do. Anyone who is anywhere near retirement age loathes the idea. That's why the increase in the retirement age from 65 to 67 which America legislated in 1983 is only just beginning to come into effect and will not be fully phased in until 2027. Raising the retirement age is a recipe for doing too little, too late.

Go home when you feel like it

A better solution is to get rid of a set retirement age altogether. Instead, pension benefits should be linked to life expectancy so that they are automatically reduced at current retirement ages as people live longer (see article). This already happens with private-sector pension plans funded through defined contributions—the system that companies are moving towards, as defined-benefit schemes become too costly. When people turn their pension savings into annuities, the insurer—unlike state pension systems—takes into account rising life expectancy. As Sweden has demonstrated in its pioneering pension reform, the same principle can be applied to state pensions even when they are financed on a pay-as-you-go basis from contributions paid by workers. This solution sends a clear signal: as you live longer, so you will have to work longer or save more if you want to retire in comfort.

The idea of a “normal” retirement age belongs to another era. If people want to do a Greenspan—the chairman of the Federal Reserve, at 76, shows no sign of loosening his grip—that's fine. If people want to retire much earlier that's also fine, so long as their benefits are correspondingly reduced so that others don't pay for their leisure. Get rid of fixed retirement ages and the costs of population ageing become manageable rather than insuperable.

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Letters

Dec 12th 2002
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Poland's deficit

SIR – Recently, I proposed to Ecofin, the council of European finance ministers, that euro-zone budgetary constraints should apply to the aggregate deficit in the area rather than to each country ("What convergence?", December 7th). The reported Dutch response, that "profligates would be 'free-riding' on the backs of more frugal countries", neglects the essence of my proposal. This is that deficits should be treated like pollution, with rights to spend being transferable across countries without prejudice for the total amount of deficit. In 2001, the overall euro-zone deficit was only 1.1% of GDP, which is what matters for the stability of the euro.

You say that my words "would carry more weight if Poland's awesome budget deficit was itself designed to stimulate economic growth." For the record, the 2003 deficit will be only 3.9% of GDP; it is falling and on course for convergence with the Maastricht requirements in time for Poland's earliest possible entry into the EMU. That our deficit is indeed a stimulus to growth is proven by Poland's current pace of growth, which is already exceeding 2% and is heading for 3.5% in 2003. All the other Maastricht conditions have been met—from public debt to inflation, from exchange-rate stability to interest-rate ceilings. Here Poland is not just converging, it is already there.

Grzegorz Kolodko
Deputy premier and minister of finance
Warsaw

Too much technology

SIR – Disappointingly, the future for the convergence of mobile phones and computers is going to be much like the present and past: full of seductive products that look exciting and promise much but which are frustratingly difficult to use ("Computing's new shape", November 23rd). I recently bought a sophisticated mobile phone. I spent several hours trying to navigate its features and configure it to read my e-mail. I have a PhD in computer science but I still had a sense of helplessness. The battle for domination will be won not just through sleek technical innovation but by companies who consider seriously the human perspective in their designs.

Matt Jones
Hamilton, New Zealand

SIR – If your outlook is right, then Microsoft's weak competitive position in handsets would be rectified through the acquisition of Motorola. Although struggling, the Motorola name still provides the brand recognition that you suggest will be crucial in this industry revolution. The announcement of that event will provide the sought-after spark that initiates the next bull market.

Daniel Donoghue
Chicago

Taking responsibility

SIR – Your article on Reebok misrepresents the goals of corporate-responsibility programmes ("Reebok, ethically unemployed", November 30th). It reflects the premise that human-rights programmes get in the

way of economic development, a point underscored by a statement that workers in developing countries want to work excessive hours. This is not true. Our monitors have been working in the field for ten years. One of the most common grievances that they hear from workers is that managers expect as much as 70-hour working weeks, often without adequate compensation.

Shareholders, trade unions, advocates and hundreds of multinational corporations have long demonstrated their strong support for corporate-responsibility programmes. A growing body of data shows that implementation of codes of conduct leads to lower rates of industrial accidents, improved worker-grievance systems, cleaner air quality and lower worker turnover, which in turn results in lower production costs. Reductions in excessive work hours increase product quality. Multinational corporations benefit from protection of their brand reputation as well.

Reebok has been a proud leader in this movement. We have shared our experiences with other companies in the hope that our successes will be replicated by others. We will continue to challenge exploitative practices, despite your view that it is the role of business only to make money, regardless of the price paid by workers or their families.

Doug Cahn
Vice-president
Human-rights programmes
Reebok International
Canton, Massachusetts

Safety or freedom?

SIR – You mention the debate about a recalibration “between public safety and civil liberty” since the September 11th attack (“Preparing for terror”, November 30th). Before the attack commentary reflected Benjamin Franklin's observation: “They that can give up essential liberty to purchase a little temporary safety deserve neither liberty nor safety.”

Sean Killian
Washington, DC

The price of learning

SIR – Requiring private financing would allow students (and the banks that would finance the loans) to question the quality and motivation behind their degrees (“On the road to ruin”, November 16th). Are they after three years of fun or are they taking a degree to advance their academic credentials and attain a qualification that genuinely has merit because of its subject matter or the institution from where it was gained?

Why should the taxpayers finance the former? Your figure of 17% higher earnings is for all graduates. Those with genuinely respected degrees would no doubt be better rewarded. The loans would be repaid easily.

Oliver Ormiston
Luton, Bedfordshire

SIR – During the last two decades British governments have not only given university lecturers more students to teach but have significantly increased the administrative burden on universities under the mantra of quality assurance. A shift in funding from government grants to student fees should permit the heavy hand of regulation to be lifted from universities.

Peter Solar
Brussels

Man v machine

SIR – As a trader I am delighted to hear of yet another machine-based, self-learning system designed to simulate the behaviour of live traders and bring stability to chaotic financial markets (“Robo-traders”, November 30th) . Ironically (and thankfully), the stability and consistency these systems are designed to deliver also make them transparent. A simple pattern-recognition system in the hands of a live trader

can spot programmed behaviour immediately, allowing the skilled trader to take profits away from it. There is little logic in trading, which is why the human trader will always hold the advantage.

Michael Coffin
Paso Robles, California

Market leader

SIR – Surely we must find a third way which is neither bull nor bear ("You beasts", November 23rd). Would the obvious choice not be a Blair?

John Fawkner
Farnborough, Hampshire

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South Africa

In Mandela's shadow

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From The Economist print edition

Thabo Mbeki has great ambitions for the future of his country. But his fiercest critic is not to be shaken off

LAST January, when the African National Congress (ANC) celebrated its 90th anniversary, Thabo Mbeki, South Africa's president, made a long speech. To general astonishment, he made no mention of the ANC's most famous figure, Nelson Mandela. The feeling is mutual. When Mr Mbeki entered parliament at the state opening in February, all stood to respectful attention except Mr Mandela, who sat stock-still in his chair despite gentle tugs from his wife.

At 84, Mr Mandela has lost none of his charisma. On his visits to dusty townships, people stand for hours waiting for him and scream with joy when he appears. In parliament, MPs leap to their feet, sway, dance and sing in adoration. At dinners and private discussions, even close friends flutter with affection and respect. As he takes an armchair at a lunch in Johannesburg a roomful of businessmen, lawyers and family friends sink to their knees and form an attentive circle at his feet. He calls Queen Elizabeth by her first name (“well, she calls me Nelson”), and goes hand-in-hand with Bill Clinton, beaming for the cameras.

Mr Mbeki, by contrast, can be painfully shy. He admits he is an awkward showman, fondest of his own company. He has solitary interests: reading, the Internet, computer chess, landscape photography, poetry. On presidential tours, known as *imbizos*, he is stiff and formal. With journalists he is often impatient, bristling at ignorant questions. Mr Mandela is widely known by an affectionate nickname, Madiba. Mr Mbeki has none.

It is an open secret that another man, Cyril Ramaphosa, was Mr Mandela's first choice as his successor. But Mr Ramaphosa was out-manoeuvred in the early 1990s, and by 1999 Mr Mbeki was president. Were it not for Mr Mandela, he would be riding high and virtually unopposed. At the ANC's five-yearly conference, held next week in the vineyard town of Stellenbosch, Mr Mbeki will be picked again as party leader; his close allies are almost certain to romp to all the high party positions; and victory is more or less assured at the general election in 2004.

His party dominates politics, holding two-thirds of the seats in parliament against a divided and feeble opposition. And his country is becoming more and more of a presence in the continent. Mr Mbeki presides over the African Union, Africa's putative answer to the EU, and is also the brains behind the New

Partnership for Africa's Development (Nepad), an ambitious plan to attract more capital investment. Last year (at Mr Mandela's request) he sent his deputy-president, Jacob Zuma, and a battalion of soldiers to help keep the peace in Burundi, and he has offered 1,500 more soldiers as UN peacekeepers for eastern Congo. Under Mr Mandela, South Africa shed its isolation in Africa; under Mr Mbeki, it is actively engaged.

Causes for complaint

Yet all is not well within Mr Mbeki's administration, not least because Mr Mandela has let it be widely known that he is unhappy with it. The old man, *tata*, as Mr Mbeki sometimes calls him dismissively, has started to meddle.

Some of his recent unhappiness stems from local politics. In the ANC's heartland of the Eastern Cape, where Mr Mbeki and Mr Mandela were both born, the ANC provincial government is in such disarray that Mr Mbeki has had to send people from national government to sort it out. This has caused enormous discontent within the party. In KwaZulu-Natal, a truce between the ANC and the Zulu nationalist Inkatha Freedom Party, brokered under Mr Mandela but largely negotiated by Mr Mbeki, is collapsing as the two parties fight for local control.

Yet most of the animosity comes from Mr Mbeki's handling of South Africa's AIDS crisis, which Mr Mandela believes has been badly bungled. The disease has already killed hundreds of thousands of South Africans and is set to claim the lives of at least 4.5m more, over 11% of the population. Already, 300,000 households are headed by orphaned children. Unsurprisingly, a recent survey showed that 96% of South Africans consider the disease to be a “very big” problem for the country.

AIDS is already striking hard at the professions, notably teachers and nurses. Some analysts worry that the disease has weakened the capacity of the army (with an infection rate of well over 23%) and the police. Life expectancy is slumping as child mortality rises. Ill-health is also entrenching poverty: for a middle-income country, surprisingly large numbers of people report being short of food.

A year ago, Mr Mandela warned that leaders and their wives must do more to fight AIDS. That was an explicit reference to Mr Mbeki's inactivity, though also an admission of his own negligence as president between 1994 and 1999. All year Mr Mandela has raised the profile of AIDS, drawing a stark contrast with Mr Mbeki's wriggles and denials.

The national government and some provinces have done a lot to boost primary health care, train nurses, fund education-and-prevention campaigns and give out more free condoms. The government also helps to fund research into a vaccine and has opened 18 pilot sites to test the effectiveness of anti-retroviral drugs, which are commonly used in rich countries to keep those infected with HIV healthy. But the president himself has often frustrated these efforts.

Mr Mbeki questions figures that show the epidemic has taken hold in South Africa. He argues that anti-AIDS drugs may be more dangerous than AIDS itself. He refuses to single out AIDS as a special threat, preferring to talk of general “diseases of poverty”, and will rarely speak about it publicly. Peter Piot, the head of UNAIDS, was once brought secretly to meet Mr Mbeki in Cape Town, in an effort to persuade him that the human immuno-deficiency virus was the cause of AIDS. The two men sat late into the night drinking whisky and fruitlessly arguing the point.

Mr Mbeki also refuses to encourage people to know their HIV status and to lessen stigma around the disease. He will not take a public AIDS test, and has only once been pictured holding an infected child. Taking their lead from the president, no members of his government and very few MPs, civil servants, or public figures of any sort admit the obvious when their colleagues die of the disease.

Mr Mbeki himself seems personally affronted by the attention given to AIDS. He resents any prejudice against Africans as diseased, in part because apartheid scientists tried to create and spread viruses that would kill only black Africans. In the early 1990s the then ruling National Party even alleged that ANC leaders returning from exile in other parts of Africa (such as Mr Mbeki himself) were bringing AIDS into the country.

Appalled by Mr Mbeki's obtuseness on the subject, Mr Mandela has been trying to force him to do more about it. He openly backs the Treatment Action Campaign (TAC), one of the most aggressive and effective opposition movements in the country. Earlier this year the TAC sued the government in the

Constitutional Court and forced it to set up a national programme to give anti-AIDS drugs to infected pregnant women. The group's leader, Zackie Achmat, who himself has AIDS, refuses to use anti-retroviral drugs until the government makes them widely available. Madiba has visited and hugged Mr Achmat, and promised to lobby the president on his behalf. Last week the two men again appeared together, to launch a privately-funded plan to get anti-AIDS drugs to thousands more of the poor.

In September at Orange Farm, a township just south of Johannesburg, Mr Mandela launched a particularly sharp attack. He demanded general provision of anti-retroviral drugs by the government, pushing aside worries about cost, toxicity and capitalist imperialism. Then he ordered two of his grandchildren to join him on stage, wagged his fingers at them, and told the crowd:

> I have 29 grandchildren and six great-grandchildren. They are very naughty. They tell me I have lost power and influence, that I am a has-been. They tell me to sit down. That I must stop pretending I am still the president. Now, you have heard all these important people here today, you have heard what they say about me. So, now you must stop telling me to sit down!

That message was aimed at Mr Mbeki.

Earlier this month, Mr Mandela launched an independent report on AIDS that concluded: “We must manage this disease or it will manage us.” After perfunctory praise for government research, he said again that too little is being done, officially, to fight AIDS and the stigma that surrounds it. “I have often said to the government there is a perception that we don't care that thousands are dying of this disease. If you look at the pages of the *Sowetan*, at the death notices, it is clear that our young people are dying.”

While many private companies—among them AngloAmerican, Coca-Cola and De Beers—have decided that it is cost-effective to provide free anti-AIDS drugs to infected workers, the government is reluctant to make similar promises to other South Africans. Mr Mandela wants such drugs to be universally available, and ordinary South Africans agree. A recent survey of nearly 10,000 people revealed that over 95% want the government to provide anti-AIDS drugs now.

Not Madiba alone

Mr Mbeki often refuses phone calls from his predecessor. When he does, Mr Mandela is told that he misunderstands the complexity of AIDS. The old man has been asked by senior ANC leaders to stop undermining the government, and to tell the press that the only problem with official AIDS policy is one of communication.

Will his interventions in fact have any effect? Possibly, since he is not a lone voice. Many heads of state and former presidents have privately tried to persuade Mr Mbeki to do more on AIDS, if only for the sake of his own reputation. Mr Clinton, who was beside Mr Mandela at Orange Farm, confided his view of the president's position on AIDS: “In his own mind, he thinks he has moved a long way.” The challenge now is to persuade him to do as much as leaders in poorer African countries.

In Nigeria, said Mr Clinton, politicians talk openly about the disease. “It has kept its [infection] rate low because there was no organised, systematic and official denial of the problem there. In South Africa I see systemic obstacles still, to doing what has worked elsewhere. Leaving people to their own devices is just not good enough.” In particular, Mr Clinton criticises the failure to make mass use of anti-retrovirals, drugs that are already widely used in Brazil and India.

In September, Mr Piot protested that the World Summit on Sustainable Development, held that month in Johannesburg, paid almost no attention to AIDS. Delegates conceded that the disease was given a low priority to avoid embarrassing the host. Mr Piot and Carol Bellamy, the head of UNICEF, have both complained that Mr Mbeki's Nepad plan for African recovery makes no substantial mention of the fight against AIDS.

Mr Mbeki now seems to be slightly shifting his position, if only to persuade Madiba, Bishop Desmond Tutu and others to stop “back-seat driving”. In April the government agreed to set out a plan for provincial governments to give nevirapine, an anti-retroviral drug, to infected pregnant women and rape victims. Mr Mbeki's chief spokesman, Joel Netshitenzhe, even suggested that factories might be built to produce generic anti-AIDS drugs. And the government has been talking to firms and health activists about a national treatment plan for the disease.

In the past few months Mr Mbeki has kept silent on the subject, while trying to cultivate a more friendly persona (he has taken up golf so that he can bond with George Bush, who is expected to pay a visit next month). But South Africa's president will not be pushed into a position he opposes, especially not by westerners, the media, the UN or activists.

Ultimately, then, the most effective pressure will come from within his own party. Next week's ANC meeting in Stellenbosch is a chance for members to push Mr Mbeki to act decisively. And one member, the only world-famous one, will go on pushing hardest of all, no matter how often his calls are not returned.

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George Bush's economic team

Let it Snow

Dec 12th 2002 | WASHINGTON, DC
From The Economist print edition

AP

An efficient palace coup—and, almost immediately, an old economic debate opens up in the Republican Party

Get article background

GEORGE BUSH capitalised swiftly on his extraordinary victory in the mid-term elections by trying to fix his administration's biggest liability: his economics team. On December 6th, Paul O'Neill, the treasury secretary, and Larry Lindsey, the chief economic adviser, were given the order of the boot. (The kicker in Mr O'Neill's case was Dick Cheney, an old friend who had been responsible for hiring him in the first place.) The White House then rapidly named John Snow as treasury secretary, hinted that it wanted Stephen Friedman as economic adviser and pulled in William Donaldson, a veteran banker, to head the Securities and Exchange Commission.

All very efficient and vicious. Yet, nearly a week later, the White House is beginning to look a little less omnipotent. Mary Landrieu, Louisiana's Democratic Senator, survived a frontal assault from the Bush machine to win re-election (see article). Now Republicans are feuding about economic policy—with Mr Friedman's appointment still in doubt as *The Economist* went to press.

Few in the White House are mourning the passing of Messrs O'Neill and Lindsey. Mr O'Neill never grasped the first rule of his job: that words have consequences. His straight talk was refreshing but irresponsible. Mr Lindsey's constituency never extended beyond right-wing think-tanks to the rather more important worlds of Wall Street and corporate America. His management skills within the Treasury also seem to have been rather weak.

Mr Snow is not without his drawbacks. He comes from the same corporate world as Mr O'Neill and Mr Cheney. CSX, the company that he headed, makes Mr O'Neill's Alcoa look like a tiger by comparison. The two most impressive numbers in the railroad's accounts are Mr Snow's compensation (which recently took a quantum leap) and its embarrassingly low tax payments. On the other hand, the White House is probably right to claim that Mr Snow will be a better communicator than Mr O'Neill, and a better team player.

The business of recruiting the other half of the economic team has been less than happy. Over the weekend the White House floated the name of Stephen Friedman, a former co-chairman at Goldman Sachs. But this immediately provoked a storm of protest from the tax-cutting right, led by Stephen Moore, head of the Club for Growth. Mr Friedman is a deficit hawk: he even sits on the board of the

Concord Coalition, a bipartisan group that crusades against federal budget deficits. Indeed, the tax-cutters note sourly that some of the strongest support for Mr Friedman's appointment has come from Democrats such as Jon Corzine, a senator for New Jersey and a former successor of Mr Friedman's at Goldman Sachs, and Leon Panetta, Bill Clinton's former chief of staff.

The fervent Republican tax-cutters suspect that Mr Snow also belongs to the deficit-hawk wing of their party. True, Mr Snow was an active member of Jack Kemp's tax-reform commission in 1995, which argued for both a reduction of tax rates and a simplification of the code. But he also led a campaign by the Business Roundtable, a pressure group for the bosses of the country's largest companies, to reduce the deficit. The supply-siders worry that the coup at the Treasury is about more than just personnel; Mr Bush may be losing his tax-cutting zeal.

The White House insists Mr Friedman will come through, despite the criticism. The appointment will still, though, be delayed as he deals with potential conflicts of interest coming from his investments; there are also questions about his health. But the alacrity with which the tax-cutters seized on the issue demonstrates the scale of the debate about the economy.

Early next year the White House plans to introduce a stimulus package with a price tag of $250 billion-300 billion over ten years. This is likely to accelerate cuts in personal income taxes and reduce corporate dividend taxes paid by individual investors. It comes on top of last year's cuts in income-tax rates, and is very much in line with Mr Bush's pledge to govern, above all, as a conservative president.

But tax cuts are encountering growing opposition in Washington. The Democrats are inevitably the loudest critics. They too have their divisions (notably about public spending), but they seem to be rallying around the idea that Mr Bush's obsession with making the tax cuts permanent is poor economic policy. They also think that this provides their party with their best chance of denying Mr Bush a second term.

In private, a growing number of Republicans have the same fears. Indeed, an old civil war seems once again to be under way in the party—between the supply-siders, who came to prominence in the 1980s, and more traditional conservatives, who put much more emphasis on good housekeeping and regard the supply-siders as purveyors of “voodoo economics”.

The *casus belli* is also a familiar one: a ballooning deficit. When Mr Bush came to office, the federal government projected a decade of huge surpluses ($5.6 trillion in all), so the president's call for giving people back some of their “overcharge” seemed to make perfect sense. Since then revenues have slumped dramatically, thanks to a combination of a weak economy and generous tax cuts, and expenditure has expanded dramatically, not least because of the war on terrorism.

Last week the Congressional Budget Office unveiled some deficit projections for George Voinovich, a Republican senator for Ohio. If the recent tax cuts are extended indefinitely, and if spending continues to grow at the rate of the past five years, the total budget deficit will amount to $2.9 trillion over the coming decade—and that figure rises to $5.4 trillion if you exclude the Social Security surplus.

Things may get even worse. Both parties have promised new prescription-drug benefits for the elderly, which could cost the government a fortune. And the huge baby-boom generation is starting to retire and collect Social Security and Medicare. Without radical changes to these two programmes the budget deficit could be out of control in a decade's time.

Which way will he go?

On the face of it, Mr Bush now has to choose between two different solutions. The supply-siders say more tax cuts will boost economic growth which will boost tax revenues. A few short-term fiscal problems are a price worth paying for long-term growth. The deficit hawks stick to the view that reigned at the Treasury under Robert Rubin (another Goldman man): that deficits mess up the government's finances and damage long-term prospects for growth by crowding out private investment.

Mr Snow inherits an agenda that has largely been shaped by the supply-siders. Mr Bush merrily changed his rationale for his tax cuts when the economy tanked—from returning the “overcharge” back to the people to putting spending power back into people's pockets in order to boost growth. But the political logic has remained the same throughout: to avoid his father's humiliating fate by shoring up support on the right. Mr O' Neill partly lost his job because he was insufficiently sympathetic to the tax-cutting

agenda.

There is one way out. If Mr Bush is serious about tax cuts and dealing with the deficit, he could still deliver both by dramatically cutting spending. Throughout the 2000 campaign he said that he wanted to impose discipline on the budget by overhauling Medicare and Social Security.

It will be very difficult. Discretionary spending has been growing at 8% a year. Most Republicans in the recent elections dodged the question of Social Security privatisation, and emphasised extending prescription-drug benefits. But there remains the possibility that for a tax-cutting president to appoint budget hawks to such senior positions is less a sign of intellectual confusion than it is a sign that he intends to be more serious than his predecessors about tackling runaway public expenditure. He had better start quickly.

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The Louisiana Senate race

Sweet success

Dec 12th 2002 | NEW ORLEANS
From The Economist print edition

A sugar-coated win for Mary Landrieu

AP

Mary did not disappoint her family

NEGATIVE advertising has its uses. It was ads mocking the stately Washington home of Mary Landrieu, Louisiana's Democratic junior senator, that forced her into a run-off after November's election. But on December 7th, when the run-off took place, the relentless attacks seemed to have backfired. Ms Landrieu prevailed, 52% to 48%, over an opponent who tried to depict her as a tax-happy liberal.

Southern gentility found no place in this campaign. In a televised debate a few weeks ago, Suzanne Haik Terrell, the Republican, accused Ms Landrieu of forsaking her own Catholicism to support abortion rights. Afterwards, Ms Landrieu huffily told Ms Terrell, “This will be your last campaign,” and then stormed out of the studio. At that moment, it hardly seemed possible that the race could degenerate any further.

But it did, and largely at the Terrell camp's instigation. In one radio ad, a narrator called Ms Landrieu a disappointment to her prominent political family. In another, a Bill Clinton soundalike touted the incumbent senator as a reliable vote for liberal causes. And although encouraging voters to go to the polls is part of Ms Terrell's job, her party tried to depress turnout among the Democrats' key backers.

Trying to exploit a rift between Ms Landrieu and Cleo Fields, a well-known black leader, the Republicans hired black workers to wave signs declaring, “Mary, if you don't respect us, don't expect us.” Worse still, the Landrieu camp said, someone circulated a misleading flyer in black neighbourhoods, claiming that people who didn't want to vote on Saturday could go to the polls on Tuesday.

All these efforts failed, much to the surprise of political experts who had seen Ms Landrieu as a goner. The challenger had gained campaign cash and political momentum from visits by George Bush, Dick Cheney and other Republican luminaries. But the incumbent responded to attacks more aggressively than she had done in the primary. She also appeared frequently with Senator John Breaux, an immensely popular Louisiana Democrat, made friends with Mr Fields and other black leaders, and touted endorsements from local politicians, some of them Republicans.

Ms Landrieu also found an effective wedge-issue in the last week of the campaign. A Mexican newspaper reported that Mr Bush had agreed to allow more sugar from that country into the United States. Ms Landrieu said this policy (which the White House denied approving) would hurt Louisiana's sugar-cane farmers, and promised to fight it. Her sudden embrace of protectionism was a bit hypocritical, since she and other Louisiana Democrats have scorned Mr Bush's decision to impose tariffs on the foreign steel that moves through the state's ports. But the ploy worked. Her rival—who had pledged unwavering support for Mr Bush's policies—was left haplessly claiming that she would help sugar-growers too, and Ms Landrieu won big in sugar country.

In the days after the election the recriminations began. Ms Terrell's Washington consultants, people said, had no idea how to run a campaign in Louisiana. The state's voters, after all, have not sent a Republican to the Senate since the 1880s. The party annoyed its own loyalists with too many Yankee “robo-calls” reminding them to go to the polls.

There may be some truth in all this. Once the Republicans had manoeuvred Ms Landrieu into a run-off,

this Senate seat was theirs to lose. And they seem to have lost it by putting people off.

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A suit in dispute

Houston, we have another problem

Dec 12th 2002
From The Economist print edition

An unseemly wrangle over a hero's clothes

LIEUTENANT-COLONEL Virgil Ivan Grissom—Gus for short—was lucky enough to be the first man to travel in space twice. He was also unlucky enough to wind up half-drowned and humiliated when his first sub-orbital flight in 1961 ended messily. The explosive bolts on his capsule's hatch malfunctioned after splashdown, flooding and then sinking the spacecraft. Unlike fellow Project Mercury astronauts Alan Shepard and John Glenn, he was not invited to meet President Kennedy.

Grissom was cleared by NASA, but rumours that he had accidentally blown the door off dogged him for the rest of his life. A further blow to his reputation came with Tom Wolfe's book “The Right Stuff”, published in 1979, which portrayed him as a grunting, skirt-chasing boozehound. Friends remember him as an engineer, war hero and brave astronaut, who declared that “the conquest of space is worth the risk of life”.

Though Grissom was the most publicity shy of the original seven astronauts, he had a test pilot's dark sense of humour. When NASA objected to his naming his second spacecraft *Molly Brown*, after the unsinkable character of the Broadway play, he threatened to call it *Titanic* instead. He further irked the boffins by eating a smuggled corned-beef sandwich aboard the spacecraft.

Grissom and two colleagues were killed in a test of the Apollo spaceship in 1967. Now a new row has emerged.

In 1990, his widow, Betty, who has long been resentful of the second-class treatment of her husband, loaned his spacesuit to the Astronaut Hall of Fame in Florida. The museum went under earlier this year and was taken over by new management. But when Mrs Grissom asked for the return of the suit, NASA stepped in, claiming that it remains agency property, and blocking its return to the family. Mrs Grissom has vowed to fight, and may pursue legal action. Perhaps, somewhere in the space he once explored, Gus Grissom is looking down and laughing at how, after all these years, he can still stir things up on earth.

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DNA evidence

A Pandora's box

Dec 12th 2002 | NEW YORK
From The Economist print edition

Politicians are nervous about opening it—for all the wrong reasons

THIRTEEN years ago a woman jogging in Central Park was raped, battered and left for dead. Five black and Latino teenagers were convicted of the crime, though they maintain their confessions were coerced. A year ago another man, a convicted rapist and murderer who is serving a life sentence in jail, admitted to the crime, and his DNA matches the samples found at the scene. On December 5th the Manhattan district attorney said that the charges against the five should be dropped.

Last week DNA evidence also came to the rescue of Gene Bibbins and Amos King. The former, a convicted rapist, had already served 16 years of a life sentence in Louisiana when he was exonerated on December 6th. On December 2nd Mr King, who has spent 25 years on death row in Florida, had eaten his last meal when Jeb Bush issued a stay of execution. Mr King's lawyer, Barry Scheck, managed to convince the governor that analysis of DNA evidence would prove the convicted rapist and murderer's innocence or guilt one way or the other. Mr Bush agreed to wait another 30 days to see.

Since 1989, when a DNA sample was first produced as evidence after a conviction, 117 prisoners have been exonerated, 12 of them on death row. The number has been creeping up: there were 23 exonerations last year, compared with four in 1993. Nina Morrison, the director of the Innocence Project, a charity that was involved in both Mr King's case and that of the Central Park five, claims that many more people should have been let off. “For every revelation of someone's innocence, there may be ten more where DNA evidence isn't available or was destroyed,” she says.

Nobody disputes how useful DNA is in detective work. No two people have the same DNA, except identical twins. You can get DNA samples from all sorts of things—hair, skin cells, semen, blood. The saliva on a smoked cigarette or the perspiration on a baseball cap may be enough. Some 44 states now have DNA databases, and the FBI also has its own growing genetic library. Virginia's DNA databank, for example, has genetic profiles for almost 200,000 felons and has helped capture more than 1,000 violent criminals in seemingly hopeless cases.

So why is DNA used so little in appeals? Partly because it is hard to get. Good DNA material is available in only one in five felony cases: often there is not enough DNA for a sample, or it is old or contaminated. And it is not necessarily proof of guilt or innocence. You can commit vicious crimes without leaving physical evidence behind (as some argue the teenagers did in the Central Park rape case).

Although DNA tests back up convictions roughly half the time, politicians have been slow to embrace a tool that has mainly hit the headlines when it has revealed miscarriages of justice. As recently as 1999, only two states had laws allowing post-conviction DNA tests. Twenty-six have such laws now, but many impose arbitrary restrictions. In Kentucky, only inmates on death row qualify for a post-conviction DNA analysis. And getting such analysis is a haphazard business. Mr King's reprieve was the result of a month-long campaign, at the end of which Mr Scheck (who defended O.J. Simpson) inveigled his way into the governor's office.

Cost plays a part. Laboratory tests on older forensic evidence can cost thousands of dollars. But the main reason seems to be fear. For law-enforcers, DNA analysis is a Pandora's box: each new “criminal” proved innocent opens up more doubts about the system that convicted him. The New York Police Department is now facing plenty of questions about the Central Park case.

Some troubling patterns have emerged from the exonerations. The wrongly convicted are disproportionately poor and black (even when compared with the prison population as a whole). Some 60 of the first 82 people to be let off were convicted on the basis of eyewitness identification. In more than

half the cases there was evidence of police or prosecutorial misconduct, such as manipulation of confessions and the withholding of key evidence from the defence. Other common problems are incompetent court-appointed defence lawyers, fraudulent scientific evidence and bogus testimony from jail “snitches” who have been bribed.

One answer is the proposed Innocence Protection Act. The bill would set a national standard for legal representation, require states to preserve evidence and ensure that any criminal has the right to a DNA test if it could prove his innocence. The states will be allowed to implement these standards as they see fit, but the bill provides money for it. It stands a good chance of passing: more than half of the House and a third of the Senate supported it before the November election.

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Terrorism and the law

Hard to defend

Dec 12th 2002
From The Economist print edition

Cases now in the courts show how sorely proper anti-terrorist laws are needed

IT IS hard to imagine that America would look kindly on a foreign government that demanded the right to hold some of its own citizens in prison, incommunicado, denying them access to legal assistance for as long as it thought necessary, without ever charging them with a crime. Nevertheless, that is the position that George Bush's administration has tried to defend in the courts with regard to American citizens whom it has deemed to be “enemy combatants”. So far it has had mixed success in persuading the judges that such extreme measures are needed.

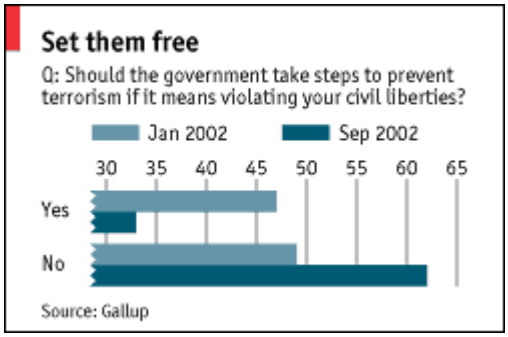
Most European countries have passed modern anti-terrorism laws, which typically give police greater powers than in normal cases but still give suspects basic rights such as access to lawyers. America has no such code of conduct. So the extent of Mr Bush's powers will be determined by two enemy-combatant cases currently working their way through the federal courts; they should reach the Supreme Court some time next year.

The two enemy combatants, Jose Padilla and Yaser Esam Hamdi, are both in solitary confinement. They seem to raise different issues. Mr Padilla, known as the dirty bomber, was originally detained by federal agents upon arrival at Chicago's airport not as a criminal, but as a “material witness” in a New York grand-jury probe of terrorism. Several weeks later, instead of charging him with a crime, the federal authorities had Mr Bush sign a declaration that the American citizen was an “enemy combatant” and handed him over to the armed forces.

Mr Hamdi, by contrast, reportedly surrendered to Northern Alliance troops in Afghanistan and was subsequently transferred to American custody there, and then to America's base at Camp X-Ray in Guantanamo Bay in Cuba, where hundreds of non-American detainees are being held. Upon discovering that Mr Hamdi was born in Louisiana and had not renounced his American citizenship, the government moved him to a naval brig in Virginia.

The two cases have now been taken up by civil-liberties groups (who seem to be recovering some ground in America—see chart). Federal judges have agreed that the courts should show “deference” to the executive branch's decisions in a time of crisis, but even avowedly conservative judges have found some of the government's claims hard to swallow.

Earlier this month a federal judge in New York issued a 102-page ruling that Mr Padilla should have access to a defence lawyer who has been trying to see him for months. Government lawyers are expected to appeal against that ruling, as they have already done against a similar one by a federal judge in Virginia who granted Mr Hamdi access to the local public defender. The appeals-court ruling in Mr Hamdi's case is expected any day.



The federal-district judges in both cases are conservative Reagan appointees. And the Fourth Circuit Court of Appeals now reviewing the Hamdi case for the third time is widely considered the most politically conservative in the country. But even its chief judge, Harvie Wilkinson, who largely sided with the government in earlier hearings, believed the idea that any American citizen could be detained indefinitely without charges or counsel on the government's whim was a “sweeping proposition”. He refused the government's request to dismiss the case out of hand.

In the face of judicial scepticism, the government has retreated somewhat. It now concedes that the

federal courts have some right to review the detentions, but it has insisted that this review should be minimal and that enemy combatants should not have access to a lawyer because of the danger that they may pass information or signals to other al-Qaeda agents. Michael Mukasey, the judge in the Padilla case, has dismissed that concern as “gossamer speculation” and ruled that, unless Mr Padilla has access to a lawyer, he has no way to mount a proper challenge to his detention.

Mr Bush's lawyers are not in headlong retreat. Mr Mukasey decided that, because of a resolution passed by Congress after the September 11th attacks, the president did have the authority to hold alleged enemy combatants without charging them with a crime. And civil-liberties groups are pessimistic about the chances of the Supreme Court's conservative majority imposing many curbs on the government's anti-terrorism efforts—especially as the court has a long history of deferring to the executive branch in times of war.

All the same, it is hard to believe that the judges will endorse Mr Bush's widest claim—that he has the power to put any American citizen, apprehended anywhere, in the same legal limbo as the non-American detainees in Cuba's Guantanamo Bay (which one federal judge has already ruled is outside the federal courts' jurisdiction). A task-force of the American Bar Association has combed through the government's legal arguments and rejected most of them, especially its claim that a 1942 Supreme Court judgment endorsing the military trial and execution of Nazi saboteurs gives it the right to hold American citizens indefinitely.

In the sabotage case, the task-force points out, though the defendants were tried by military tribunal, they were charged with a crime, had access to lawyers and were put on trial. “No one wants to let terrorists go,” says Neil Sonnett, the head of the task-force. “But there has to be some way for these people to say, ‘It's not me, I'm the wrong guy'.” The task-force calls for Congress to come to an agreement with the administration on explicit rules to apply to enemy combatants. If America is to fight a war against terrorism, it probably needs proper anti-terrorism laws.

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Endangered species

Ol' black-foot is back

Dec 12th 2002 | CONATA BASIN, SOUTH DAKOTA, AND SYBILLE CANYON, WYOMING
From The Economist print edition

A predator that ranchers seem to like

THE Conata Basin, in South Dakota's badlands, is parched, scrubby and desolate—hell for humans, but heaven for black-footed ferrets. This resilient creature, the only ferret that is native to North America, has several times been declared extinct; now it is making a tremulous comeback.

The black-footed ferret got into trouble because, unlike its European cousins, it likes eating only one thing: prairie dogs. Although smaller than the rodent, the ferret has a clever way of suffocating the dogs down their holes. But its dinner (and lunch and breakfast) has been disappearing rapidly, killed by ranchers and a form of bubonic plague that also affects the ferrets. Now prairie dogs occupy only 2% of their original habitat.

In 1980, after another extinction scare, a small population of black-footed ferrets was found in Meeteetse, Wyoming. In 1986, fearing the worst, biologists kidnapped 18 of them for a captive-breeding programme. Every black-footed ferret alive today is a descendant of one of seven of these ferrets.

So far scientists have bred 4,000 ferrets and introduced 1,000 into the wild. The main breeding centre, in Sybille Canyon, Wyoming, has “preconditioning” classes for the young “kits” in wood-and-wire pens built over prairie-dog burrows. “It takes them a few weeks to get acclimatised,” says Bill Perry, a Forest Service biologist. “But once they do, they become killing machines.”

Ranchers protested against the reintroduction of wolves, but they rather like the ferrets; anything that eats prairie dogs can't be that bad. Disease remains a constant threat, though researchers are working on a vaccine for the plague. Another cloud on the horizon: the prairie dog could be declared a “threatened species”, which might make the ferret programme hard to justify. But for the moment the scientists are pushing ahead, undaunted. A new, $7m breeding centre is being built in Fort Collins, Colorado, to replace the cramped one in Sybille Canyon.

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Mormons and genetics

The heretic

Dec 12th 2002 | SEATTLE
From The Economist print edition

A Mormon mentions the unmentionable

THE Book of Mormon, the founding document of the 11m-strong Church of Jesus Christ of Latter-Day Saints, promulgates a notion that most non-Mormons find absurd: that today's Native Americans are descendants of lost Israelites who wandered across the Atlantic thousands of years ago. Those Israelites, the Book of Mormon claims, split into two tribes, the fair-skinned Nephites and the dark-skinned Lamanites. In time the Nephites were wiped out, but the Lamanites survived, becoming the Native Americans who were encountered by European explorers and settlers in the New World.

Now a devout Mormon, too, has suggested that this is nonsense, landing himself in very hot water. Thomas Murphy, a 35-year-old instructor at a community college north of Seattle, asserts in a paper published earlier this year that genetic evidence shows that modern Native Americans are descended not from Mediterranean peoples, but from early Asians migrating over a land bridge near Alaska. To believe otherwise, says Mr Murphy, is akin to believing the world is flat. He thinks that the Book of Mormon itself—discovered through divine intervention, Mormons believe, and therefore unimpeachable—is “19th-century fiction”.

Salt Lake City is not amused. Early in December, Mr Murphy faced excommunication, a fairly common punishment for members who question church doctrine. But a growing media storm and a flurry of planned rallies in support of the heretic apparently caused church leaders to think twice. At the last minute, the excommunication hearing was postponed.

Mr Murphy does not claim to be an expert on DNA analysis: he says his conclusions about Native American origins were something of an afterthought in his research into the church. And church defenders insist that the Book of Mormon does not specifically state that all modern tribes are descended from the Lamanites. “Of course North America was broadly populated by people from Asia,” says Daniel Peterson, a professor at Brigham Young University. “That doesn't mean that a few very small migrations—numbering fewer than 100 people—couldn't have come in through a different route.”

Forcing critics to prove a negative is a common tactic for the church's defenders. A century ago, for instance, its belief that human-made mounds in the eastern United States were the work of the Nephite and Lamanite tribes was widely discredited by the nascent science of anthropology. But to this day the mounds are revered within the church. It has also gone through strenuous intellectual gymnastics to prove that the elephants and other animals described in the Book of Mormon existed at the time of the North American occupation by the Israelite tribes. None of this is supported by modern palaeontology.

But it is vital for the church to hold firm on such points. Much of the appeal of the Mormon religion is its straightforward narrative, says Jan Shipp, a professor of religious studies at Indiana University-Purdue University in Indianapolis. That narrative includes the belief that the Book of Mormon came straight from 100lb (45kg) of gold plates, inscribed in a sort of faux-Egyptian by the ancient Nephites, which were discovered in the early 1800s in New York state and translated by the church's founder, Joseph Smith, at the direction of an angel. It is hardly science or history; but then the same might be said of other great religious books.

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Lexington

Beyond the pale

Dec 12th 2002
From The Economist print edition

The Republicans should replace Trent Lott as their leader in the Senate

IN 2000, the jibe went, the Republican Party convention in Philadelphia was like a basketball game: everyone onstage was black and everyone in the audience was white. Cynics said the party would do anything to win black and Latino votes. But there was a simpler explanation. Republicans wanted to show themselves friendly to minorities because they have actually become more colour-blind, more like the party of Lincoln again. George Bush has followed up by reaching out to Latino voters, appointing blacks to prominent positions, and so on.

And now, just as the Republican family seems on the point of convincing everybody of its respectability, along comes Trent Lott—like the mad wife in the attic whom everyone has been pretending isn't there. At the 100th birthday party for Senator Strom Thurmond of South Carolina, Mr Lott, the Republicans' leader in the Senate, said: “When Strom Thurmond ran for president, we [in Mississippi] voted for him. We're proud of it. And if the rest of the country had followed our lead, we wouldn't have had all these problems over all these years, either.”

What? When Mr Thurmond ran for president in 1948, he did so on an explicitly racist ticket. “We stand for the segregation of the races and the racial integrity of each race,” ran his party's manifesto. That was the period of the Jim Crow laws, America's apartheid. Blacks had separate schools, separate towns, separate drinking fountains. Their votes were ignored. They did not have the protection of the law. Mixed marriages were illegal. In 1948 Mr Thurmond stood for the continuation of this system: “There's not enough troops in the army to force the southern people to break down segregation and admit the Negro race into our swimming pools, into our homes and into our churches.”

Mr Lott did more than merely praise Mr Thurmond. He could have done that without expressing pride in segregation

Many white southerners have struggled with the legacy of slavery and racism. Those that deserve respect changed their views. Mr Thurmond sent his daughter to an integrated school. He promoted the careers of black officials in his office and state. This does not make his 1948 views less repugnant, but he does not express nostalgia for Jim Crow now.

So what can be said in Mr Lott's defence? His initial explanation was that everybody else was seeing something that really was not there. “Senator Lott's remarks,” his spokesman said, “were intended to pay tribute to a remarkable man who led a remarkable life. To read anything more into these comments is wrong.”

This was disingenuous. Mr Lott did more than merely praise Mr Thurmond. He could have done that without expressing pride in segregation. He actually said that America would have been better off had Mr Thurmond won the presidency. In other words, if the rest of the country had followed Mississippi's lead, America would not have had the civil-rights acts guaranteeing blacks the right to vote and would not have had the *Brown v Board of Education* decision desegregating schools. Mr Lott's words suggest he regards these reforms as “problems”.

Once the inadequacy of the first response became clear, Mr Lott put out another statement: “A poor choice of words conveyed to some the impression that I embraced the discarded policies of the past. Nothing could be further from the truth, and I apologise to anyone who was offended by my statement.” So, yes, the words could mean what they appeared to mean, but it was all a terrible mistake by the senator, the product of clumsy extemporising.

As an apology, this was better, if hardly a ringing endorsement of racial equality. But as an explanation, it left much to be desired. Mr Lott cannot reasonably claim the problem was just “a poor choice of words”. The words were crystal clear. He said pretty much the same thing about Mr Thurmond's 1948 campaign at a rally for Ronald Reagan in 1980.

Nor can a son of Mississippi plausibly claim to be ignorant of the implications of Mr Thurmond's old stance, or to be unaware of how others would understand his remarks. Mr Lott's record does not give him a reserve of good faith on racial matters from which to draw. Four years ago, it was revealed Mr Lott had written a regular column for, and spoken at meetings of, the Council of Conservative Citizens. This is a group which says its “particular emphasis is the protection of the expressive rights of the millions of Americans of British and European descent who hold conservative views on racial and ethnic relations”.

A son of Mississippi cannot plausibly claim to be ignorant of the implications of Mr Thurmond's old stance

Other southern conservatives of Mr Lott's generation in Congress, such as Tom DeLay and Dick Armey, do not have problems like this. The hard fact is that Mr Lott's comments last week were the nearest any senior American politician has got to praising segregation for years. In a country where the charge of racism is often thrown around far too easily, his remarks, even if they were a genuine mistake, crossed the line.

Southern man, don't forget what your good book said

What should be done? As *The Economist* went to press, a clearly panicking Mr Lott finally appeared on television and radio admitting his remarks were “terrible” and “insensitive”. That should not prevent him from formally apologising to the Senate—or being forced to do so by a censure motion.

The Republicans, surely, have to be more brutal. In a few weeks, Mr Lott is due to become leader of the Senate again—the public face of their party in Congress. How on earth can Mr Bush win over minority voters with such a figure by his side? The Republican Party actually stands on the sensible side of the argument in plenty of racially-charged debates, including welfare reform and affirmative action. Decent laws and initiatives will now face accusations of bad faith and bias. As a senator, Mr Lott's fate must rest with Mississippi's voters. But as leader of the Senate, it rests with his Republican colleagues. For their sake, he should go.

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Venezuela's stand-off

Amazing shrinking president

Dec 12th 2002 | CARACAS
From The Economist print edition

Reuters

The seemingly unstoppable force of an opposition strike meets the immovable object that is President Chavez

KEYLA GUERRA, an 18-year-old student, died with a bullet in her head when a gunman opened fire in the Plaza Francia, a Caracas square that has become the symbol of the Venezuelan opposition's struggle to oust President Hugo Chavez. With her died a street trader and a university teacher, while nearly 30 people among the large crowd were wounded. Their deaths, on December 6th, gave a new momentum to a general strike begun four days earlier. This week, oil exports, the lifeblood of Venezuela, were largely halted. Refineries shut down, and ports and airports were almost at a standstill. Petrol was in short supply throughout the country. Those who could afford to were stockpiling food.

Support for the strike has gone far beyond Mr Chavez's long-standing opponents in private business, the trade unions, the media and the Church. Groups not normally known for their militancy, including merchant navy officers, shipping pilots, and even tax collectors and some supreme court judges, have joined the peaceful but noisy protests. Most of the country, it seems, has decided that it has had enough of Mr Chavez and four years of his “Bolivarian Revolution”, a gaseous concoction of populist nationalism and presidential high-handedness.

The strike was called because Mr Chavez blocked a consultative referendum on his rule (even though the opposition had gathered the requisite signatures for this) or an early election. “Even if 90% vote against me, I won't resign,” he said. He argues that the opposition should wait until next August, the mid-point of his current term, when the constitution allows a binding recall referendum on his rule.

In the wake of the Plaza Francia killings, the opposition has hardened its stance. Now it wants the president either to resign altogether, or to call early elections and then resign if he wishes to stand again. Foreign diplomats, including those of the United States, have begun to back the call for an early election.

The government insists, implausibly, that the strike is having little effect. Even so, Mr Chavez at first refused to allow his representatives to return to talks chaired by Cesar Gaviria, secretary-general of the Organisation of American States, until it was lifted. This week, under increasing diplomatic pressure, he relented. But he insists on calling the negotiations “a dialogue”. And rather than offer any proposals to break the deadlock, his nominees have adopted delaying tactics.

Provoking violence

The opposition remains deeply suspicious of the president's intentions. The government's radical faction (known as “the Taliban”), led by Mr Chavez himself, has seemed to relish a showdown. He still retains the diehard support of perhaps 20% of Venezuelans, and more in some Caracas shantytowns. He has a tighter grip on the key army commands (though not necessarily the middle ranks) than he had when he was briefly overthrown by a coup in April. The radicals calculate, rightly, that the opposition was discredited by the coup. So they seem to be doing all they can to provoke the opposition into violence, or even another coup attempt.

Calls by the president and others for “the people” to “defend the oil industry” were answered by the arrival at oil facilities across the country of pro-Chavez mobs, only several hundred strong but protected by the National Guard. Striking managers warned of potential disaster after people who they said were unqualified entered refineries and, in some cases, operated equipment. On the night of December 9th, the mobs ransacked television stations across the country and threatened their staff. Diosdado Cabello, the interior minister, justified these actions, prompting Mr Gaviria to call on the government to respect media freedom. Mr Chavez accuses the media of distortion, and of promoting a coup or even his murder.

So far, the violence appears to have emboldened rather than intimidated the opposition. The assassin in Plaza Francia was quickly captured by the enraged crowd. He appeared to have links with a *Chavista* mayor, though the government disputes that. Opponents charge that Mr Chavez's constant harangues are aimed at encouraging such attacks. “We don't know where the bullets came from, but we do know where the discourse came from,” says Alejandro Armas, a congressman who was until recently a supporter of Mr Chavez.

When Mr Chavez took office in 1999, many believed that despite his “revolutionary” rhetoric, and his past as an army officer and coup plotter, he would rule as a democrat. But Mr Chavez has never made any secret of his belief that he is heading a military-civilian regime whose purpose is to break decisively with representative democracy and install a “revolution”. Few took him seriously. Now many do—and they don't want him.

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Canada's war of succession

Old upstart shows mettle

Dec 12th 2002 | OTTAWA
From The Economist print edition

While Jean Chrétien flounders, Paul Martin strides ahead

Get article background

Reuters

Martin is ready and waiting

LAME ducks usually hobble off with little delay. Not Jean Chrétien, Canada's prime minister of the past nine years. Back in August, he announced that he would retire—but not until February 2004, soon after his 70th birthday. Predictably enough, this self-indulgently long goodbye has landed Canada and its ruling Liberal Party with the embarrassment of a prime minister from whom power is steadily seeping away.

Mr Chrétien insists that he still has much to do, especially some ambitious social reforms. But there has been little evidence of any action on these in the current session of parliament, which rises for a lengthy Christmas recess on December 13th. Most commentators reckoned that the real reason for Mr Chrétien's desire to linger so long was to lessen the chance that he would be succeeded by Paul Martin, his former finance minister and long-time rival. By 2004, Mr Martin will be 65, and, the logic went, would falter under the challenge of younger contenders.

The logic was faulty. Since August, almost nothing has gone right for the prime minister. First, against his wishes but with Mr Martin's encouragement, Liberal backbenchers voted for a provision that the chairs of parliamentary committees should be picked by secret ballot. Then, pressure from the opposition and the media obliged Mr Chrétien to sack his top spin doctor, Françoise Ducros, after she called George Bush “a moron” in a private conversation that was reported by a journalist who overheard the remark.

Most damaging of all has been a row over a new federal gun registry. On December 3rd, the auditor-general, Sheila Fraser, revealed that the cost of the registry, which contains 4m records, had risen from C$2m (net of fees) to perhaps C$1 billion ($640m). Part of the extra cost comes from the government's decision to lower fees (which it had hoped would raise C$120m) to encourage hunters and farmers to comply with the December 31st deadline for registration. But Ms Fraser slammed the government for spending C$400m on the registry's faulty computer system. Members of Parliament had been kept in the dark about the cost overrun. Fearing their anger, Mr Chrétien withdrew a request for C$72m to finance an extension of the deadline for four months.

The prime minister's lone recent success came on December 10th, when the House of Commons voted by 195 to 77 to ratify the Kyoto Protocol on climate change. On this issue, Mr Chrétien had faced influential opposition from Ralph Klein, the premier of Alberta, who argued that Canada's businesses, and especially its oil and gas industry, will be hobbled with higher costs, while their American competitors will not.

But Mr Chrétien's victory over Kyoto will not erode the steady hardening of support for Mr Martin within the Liberal Party. Mr Martin deftly avoided upsetting either environmentalists or businessmen by saying that he strongly supported Kyoto but regretted the government's failure to win provincial backing for it.

Since June, when he was fired as finance minister, Mr Martin has been free to raise money and campaign, while his potential rivals are tied down by cabinet duties. His supporters control many Liberal constituency associations, which will help him at the party's leadership convention, set for November 2003. Mr Martin now has the apparent backing of Brian Tobin, once his most credible opponent. Allan Rock, the industry minister and another popular contender, has been winged by the scandal over the gun registry, which he launched when justice minister in 1995. With the leadership battle seemingly all over,

and the government in disarray, no wonder many Canadians want Mr Chrétien to go swiftly. But he probably won't.

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Bolivia

Troubled waters

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Another war over natural resources

Get article background

ON PAPER, the plan seemed logical enough. In aquifers deep beneath Bolivia's dirt-poor department of Potosi, lies a lot of water. To the west, across the Andean watershed, is the Atacama desert, one of the world's driest places and home to several of Chile's large and thirsty copper mines. So someone in the government of President Gonzalo Sanchez de Lozada drafted a decree that would allow owners of mining concessions to extract the water and export it to Chile.

Whoever it was should really have thought harder. There are few touchier subjects in Bolivia than water (scarce in much of the country) and relations with Chile (still hated for grabbing much of the Atacama in a 19th century war).

After the plan, er, leaked, Indian community leaders from Potosi met last month in the town of Uyuni to plan resistance. For them, the idea of exporting water is an insult. Surplus water should be used for irrigation, says Omar Fernandez, a farmer who is campaigning against the plan. “If anyone comes to drill wells here, we will set them on fire,” shouted others.

They claim the plan would hurt tourism. The Uyuni area is studded with volcanoes, hot springs, lagoons and bright white salt flats. Its wildlife includes rare cameloids, ostrich and flamingos. With 60,000 tourists a year, it is Bolivia's second most-visited region after Lake Titicaca. Opponents also say that the government has not carried out any studies to find out if the Potosi aquifers would replenish themselves. The government at first said that water exporters should pay for a study; now it is to ask aid donors.

Ever since the Spaniards discovered silver at Potosi, Bolivia has lived by exporting natural resources. But most Bolivians have lived badly. As a result, they are deeply suspicious of projects that seem to involve private profit from public goods. In 2000, mobs forced the cancellation of a concession granted to a group led by Bechtel, an American construction firm, to run the water industry in Cochabamba, Bolivia's third city. The result: the better-off waste subsidised water, much-needed investment to increase supply has been shelved, and Bechtel wants $25m compensation. Similarly, popular hatred of Chile has stalled a plan to build a pipeline to export gas from large new deposits.

A chastened government has put the water decree “in the deep freeze”, according to a spokesman. Perhaps the real lesson is that the government needs to put far more effort into debating with Bolivians how their country can cease to be poor.

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Misrule in Paraguay

Regime change?

Dec 12th 2002 | ASUNCION
From The Economist print edition

An ever-ruling party in difficulties

AP

Gonzalez, an embarrassing caretaker

IN POWER continuously since 1947, the Colorado party of Paraguay rivals China's Communists as the world's longest-ruling party still in office. Will an election next April finally end its extraordinary history of misrule? One sign that it might is a new attempt this month to impeach Luis Gonzalez Macchi, the country's caretaker president since 1999. Even by Paraguay's sad standards, corruption has been particularly brazen and the economy especially sickly on his watch. Even so, he has ridden out previous impeachment drives. This time, he may not—especially if Congress can agree on who should fill the vacant post of vice-president and thus become the new caretaker.

Mr Gonzalez has become an embarrassment even to the Colorados. Nicanor Duarte Frutos, the candidate of the party establishment in a presidential primary later this month, has been calling for his ouster for months. A former education minister, Mr Duarte finds himself in a battle for the nomination against Osvaldo Dominguez Dibb, a political outsider who owns Asuncion's successful Olimpia football club (which this month lost the world club cup to Real Madrid). Mr Dominguez denies claims that he was born in Argentina, not Paraguay, and that he owes his wealth to smuggling cigarettes to Brazil.

The faction-ridden Colorados normally manage to unite behind a single candidate. But this time they may not. Lino Oviedo, a former army commander now in Brazil, has led his supporters out of the party and into a new one. Mr Oviedo, an anti-corruption campaigner, is Paraguay's most popular politician. He is barred from office, because he attempted a coup in 1996 and faces charges of ordering the murder of the vice-president in 1999. But his supporters are talking to the opposition Liberals: between them, they might win.

Not necessarily: successive governments have blocked endless attempts to reform a state which employs 200,000 people, or 25% more than in 1989, when dictatorship gave way to a feeble democracy. Nearly all of them are Colorados, and they make up a tenth of the electorate.

But now the cash is running out. Paraguay has been hit by its neighbours' economic woes. Tax revenues are at 20% below budgeted levels; the government is struggling to pay salaries and has unpaid bills of at least $120m. The finance minister and the central bank governor both resigned last month, after failing to persuade Congress to approve fiscal reforms needed to gain a loan from the IMF.

It could get worse. The government may have to default on its small foreign debt just before the election. That would further weaken the currency, which has lost 35% of its value since January. This year, GDP has shrunk by perhaps 4%; next year is unlikely to see recovery. If the Colorados survive all of this, bet on them to outlast even the Chinese Communists.

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Brazil's new president

Mr da Silva goes to Washington

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From The Economist print edition

And names his new finance minister

AP

Only the tie was red

WHEN Luiz Inacio Lula da Silva, Brazil's left-wing president-elect, sat down with George Bush in the White House on December 10th, many people held their breath. After all, the two are hardly close ideologically, and their countries have plenty to quarrel over, from protectionism to Iraq. But they acted like old pals. They swapped compliments, and talked and joked for 15 minutes beyond the scheduled half-hour. (“You sound like a Republican,” Mr. Bush reportedly teased, when Mr da Silva explained his Workers' Party's decidedly unradical social policies.) They also agreed to meet again in Brazil. Nothing unusual, but it augured well, especially for the Free-Trade Area of the Americas—the proposed trade pact that Lula once dismissed as a gringo cabal.

Later, at the National Press Club, Lula deftly fielded queries about Brazil's ties with Washington's least-favourite governments in the region, Cuba and Venezuela, saying that his victory showed that the left could win in democracy. He confirmed, almost as an afterthought, his top economic appointment: Antonio Palocci, a former mayor and a physician, who has a conciliatory manner and a commitment to fiscal responsibility. “Since Brazil's economy is in intensive care, I decided to call on a doctor for the finance ministry,” Mr da Silva joked.

Not everyone was amused. In the early 1990s, when privatisation was still heresy in Brazil, Mr Palocci, then mayor of Ribeirao Preto, a city in Sao Paulo's farmbelt, sold the municipal telephone company and called on private investors to build a water-treatment system. The Workers' Party radicals denounced him as a turncoat. For investors edgy about Brazil's public debt, however, Mr Palocci is just what the doctor ordered. Their next question was who would succeed Arminio Fraga as central bank governor. As *The Economist* went to press, the answer appeared to be Henrique Meirelles, a former boss of BankBoston.

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Leadership in Taiwan

And now for the presidency

Dec 12th 2002 | TAIPEI
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Reuters

But vote-winning Ma Ying-jeou may not be the Kuomintang's choice

Get article background

THE former ruling party of Taiwan, the Kuomintang (KMT), may have found a new lease of life in the form of Ma Ying-jeou, the heart-throb mayor of the capital Taipei, who was re-elected by an overwhelming majority on December 7th. The island's president, Chen Shui-bian, whose popularity has slumped thanks to a faltering economy and his government's policy flip-flops, has reason to worry as he looks ahead to his own re-election bid in 15 months' time. But the KMT has to bridge huge divides in its own camp before it can be confident of ousting Mr Chen.

The mayoral and city council elections held in Taipei and the southern port-city of Kaohsiung clearly showed that despite its defeat in the 2000 presidential polls and the loss of its majority in parliamentary elections a year ago, the KMT can still put up a tough fight. Mr Ma took 64% of the vote in Taipei. The candidate of the ruling Democratic Progressive Party (DPP) won 200,000 fewer votes than Mr Chen did in 1998 when he fought and lost in a Taipei mayoral race. In Kaohsiung, the DPP mayor Frank Hsieh managed to stay in office with little more of the vote than his uninspiring KMT challenger.

China would dearly love the KMT to win the 2004 presidential polls and reverse what it sees as an attempt by Mr Chen to nudge the island towards formal independence from the mainland. China has abandoned its tactic of trying to scare Taiwan voters away from supporting DPP candidates by means of bellicose talk and sabre rattling. But it has continued its build-up of ballistic missiles on the coast facing Taiwan as a warning to the island not to try to make its de facto independence a legal reality.

During high-level talks between American and Chinese military officials in Washington this week, the first of their kind in two years, the American side criticised the missile deployments but got an earful in return on American arms sales to Taiwan. A source familiar with American government analysis says that in the past year China has placed another 150 missiles along the coast compared with about 50 a year previously. He says the missile forces are also staging more frequent exercises. Lin Chong-pin, a senior adviser in Taiwan's National Security Council, estimates the total number of missiles deployed at around 400.

During a meeting with President Bush in October, China's President Jiang Zemin offered to reduce the number of missiles, but in exchange America would have to cut its arms sales to Taiwan. This idea would hardly impress the Americans, not least because the missile deployments are only part of a general

beefing up of China's military threat to Taiwan.

But China knows that it may have to deal with Mr Chen for a long time to come. Its rhetoric on Taiwan is less strident than it was a couple of years ago. A defence white paper issued by China this week fails to repeat the threat made in 2000 that it might attack Taiwan if it continues indefinitely to reject reunification talks. In recent months China has suggested that political differences could be downplayed in order to allow direct transport links.

The outcome of the mayoral elections, while encouraging for the KMT, gave little clear indication of who might win in the 2004 polls. Mr Ma's victory is probably more a result of his personality (and his looks, which make him a darling of female voters) than of any surge of support for the KMT. He may be less of an attraction further south, where KMT support is usually thinner. In any case, despite his worth as a vote-puller, it is far from certain that the party will put him forward to challenge Mr Chen in 2004. After Mr Chen's election two years ago, China shunned Taiwan, hoping that a less independence-minded figure would replace him in the next presidential polls. But a Taiwanese official involved in mainland affairs says China is now confused about the island's politics and what they will lead to.

Much depends on whether the KMT's lacklustre chairman, Lien Chan, gives up his presidential ambitions. He finished a humiliating third in the 2000 presidential elections, but he could well have won if he had not clashed with the man who came second, James Soong. Mr Soong leads a breakaway faction of the KMT, the People First Party. He would be unwilling to join forces with his former party in the next presidential race if it meant having to stand as vice-president, at present a largely ceremonial position. He would also be unwilling to stay out of the race altogether, although to do so would cripple his party. But then it would be equally hard for the KMT to accept a political renegade as its favoured presidential candidate.

The KMT's most formidable team would be Mr Soong and Mr Ma. At 52, Mr Ma might be happy to stand as vice-president if his seniors, Mr Lien (66) and Mr Soong (60), were to make way for him in the 2008 presidential race. But this would require colossal compromises by the KMT and Mr Lien personally. Without such compromises, the opposition vote will be split again and Mr Chen could, with luck, secure a second term. The president has to try to divide in order to win, says Lo Chih-cheng of Taiwan's Institute for National Policy Research, a think-tank.

In 2000, despite a divided opposition, Mr Chen secured only 2% more of the vote than Mr Soong. Opinion polls suggest Mr Chen's approval rating has fallen from around 70% after his election to 30-40% now. Even if the KMT is unable to put up its best team, Mr Chen cannot rest easy.

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Vietnam and the United States

Case of the ghostly catfish

Dec 12th 2002 | HO CHI MINH CITY
From The Economist print edition

Threat to a lucrative trade

IN ESSENCE, the dispute is simple: cheap imports of Vietnamese catfish threaten to put United States' producers with higher costs out of business. Americans bought 17m lb (7.7m kilos) of Vietnamese catfish last year, up from 0.6m lb in 1998. Over the same period, the price of catfish has almost halved. A trade agreement between the two countries, which eliminated tariffs on catfish a year ago, will presumably exacerbate the trend. But instead of submitting to the free-market principles aired while pushing the trade pact, America's lobbyists and lawmakers are seeking to crush the Vietnamese producers.

Last year, the Catfish Farmers of America (CFA) helped to persuade Congress to pass a law restricting the use of the word “catfish” to American varieties. The Vietnamese sort, claimed the CFA, was raised in third-world rivers, eating anything it could get its fins on, and was as different from well-bred, pond-raised American catfish as a camel is from a cow.

AP

The culprit

And yet not that different, apparently. When the new law failed to dent sales of the import formerly known as catfish, American farmers decided to launch an anti-dumping suit, despite their claim that imported fish were not even comparable to home-grown ones. Their petition contends that companies in Vietnam, where the average income per person is about a fiftieth of America's, are subsidising rich Americans' taste for catfish. The Vietnamese government meddles in its economy so much, they claim, that it is impossible to make a true assessment of the local producers' costs. So they asked the Department of Commerce to work out how much it would cost to raise hypothetical catfish in India, fillet and freeze them in imaginary factories, and ship them in phantom boats to America. If these spectral confections turn out to cost more than the fleshier Vietnamese sort, it will be proof, the Americans say, that Vietnamese producers are unfairly subsidised and should pay a tariff of up to 190%.

The argument is not entirely ludicrous. The Vietnamese government does have a stake in several of the main catfish exporters, and its influence must help them secure financing from state-owned banks, for example. Vietnam does not have competitive markets for land, electricity, transport or other costs of processing catfish. But that, it is argued, makes production more expensive than it need be, not less. Even the ghostly catfish farmers of India doubtless benefit from a fair number of non-existent subsidies. Anyway, quibbles about distortions of the market are beside the point: abundant cheap labour would make Vietnamese catfish competitive under almost any conditions.

Nevertheless, the commerce department will rule in January, based on concocted costs of production in some surrogate third country. The Vietnamese government is indignant. It points out that its booming catfish industry benefits America, by cutting costs for consumers and boosting demand for American exports such as grain for catfish feed. It is threatening to launch a suit of its own, against subsidised imports of American soya beans. Vietnam may be picking up protectionist tricks from the capitalists.

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China

Uncertainty at the top

Dec 12th 2002 | BEIJING
From The Economist print edition

Jiang's military ambitions could compromise the new party leader

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AIMING to set the outside world's mind at ease, China this week vowed to pursue a peaceful foreign policy, and spend only modestly on an army of 2.5m that will serve as a force for nothing but the protection of the motherland and a secure international environment. This year's defence white paper, the fourth since 1995, paid more attention than previous ones to the importance of “political work” in the armed forces. Coming as it does after last month's Communist Party congress—held only every five years—this emphasis on politics comes as no surprise.

But the inconclusive leadership transition that the congress produced raises important questions about who will really be in command. Jiang Zemin, China's top leader for the past 13 years, ended the congress by yielding the job of party boss to his long-agreed successor, Hu Jintao. Mr Hu is also expected to take Mr Jiang's place as state president when parliament next convenes in spring. But the betting in Beijing now is that Mr Jiang plans to hold on for at least two more years, and possibly much longer, as chairman of the Central Military Commission, making him the de facto commander-in-chief. This would make it difficult for Mr Hu, who lacks a military background, to assert his leadership over army matters, and military analysts fret that any future security crisis could put under stress the delicate leadership arrangement stitched together at last month's congress.

China's response to sudden crises is notoriously slow and clumsy. During last year's confrontation with the United States over an American spy plane that was forced down after a collision with a Chinese jet over Hainan island, poor co-ordination between Chinese military and civilian leaders was blamed for making the crisis worse. With war possible over Iraq, and the ever-present threat of a rise in tension in East Asia, it is important that China's army is doing its “political work” as well as the white paper claims it is.

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South Korea

The North and the vote

Dec 12th 2002 | SEOUL
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A big issue in the election for president

POLITICAL analysts in South Korea are proving to be unusually wary about predicting who will win the presidential election on December 19th, so close is the contest turning out to be. There are seven candidates, but the real battle is between Roh Moo-hyun, aged 56, a former human-rights lawyer, the choice of the ruling Millennium Democratic Party founded by President Kim Dae-jung, and Lee Hoi-chang, aged 67, a former Supreme Court judge, who is standing for the conservative Grand National Party.

Just how many of the country's younger voters turn out to vote is likely to be crucial to the result. In 1997, a smidgen over 68% of people in their 20s voted, a respectable figure compared with many other countries, but well below the total turnout in South Korea of more than 80%. In a move to encourage the young, students at some universities this week were allowed to vote on campus in advance of election day.

The young, too, may feel that a vote could be a gesture of national support for the present feeling of anti-Americanism in the country. Widespread demonstrations have been sparked by the deaths of two South Korean schoolgirls who were killed by an American armoured vehicle on a training exercise in June. In November two American soldiers were acquitted by a United States army court of causing the deaths through negligence.

AP

Just a request

The liberal-minded Mr Roh might appear to benefit from the anger against the United States. But both Mr Roh and Mr Lee have called for the revision of an accord that allows the United States legal jurisdiction over its 37,000 soldiers stationed in South Korea. Critics of the accord say the soldiers involved in the accident that killed the schoolgirls should have been tried in a South Korean court. They also want President Bush to apologise publicly for the deaths of the girls.

Foreign policy has been a main concern of both candidates. Mr Lee has been a critic of the government's “sunshine policy” of engagement with North Korea. He wants to stop financial aid to the North while it continues its nuclear-weapons programme. Mr Roh favours continuing aid and diplomatic exchanges. Domestically, the election issues are the state of the economy, political reform, clean government and anti-corruption. But the two candidates have been so eager to woo the voters that they have moved to centrist positions that are difficult for voters to distinguish from each other.

This week, though, worries about the North became paramount when a ship on its way to Yemen from North Korea was intercepted carrying Scud missiles. Then the North said it was ending a 1994 deal that froze operations of its own plutonium-producing reactors in return for fuel oil and two less proliferation-prone power reactors. Oil shipments had been suspended last month after North Korea admitted to producing enriched uranium too. In past elections, incidents involving the North have flared up before polling day, highlighting the dangers posed by the unpredictable state. This time is no different.

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The Philippines

That's a promise

Dec 12th 2002 | MANILA
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The president starts her campaign to hold on to office

Get article background

IN A tough-sounding broadcast to the nation, President Gloria Arroyo has sought to counter the growing belief that her administration is corrupt and ineffectual. The present Philippine government is clearly not as bad as that of her predecessor, Joseph Estrada, who was overthrown by a popular uprising nearly two years ago. And, apart from rumours of a coup, which are persistent but improbable, there is little sign that dissatisfaction with Mrs Arroyo will lead to her removal from office before an election due in 2004. But opinion polls indicate that she is likely to lose that election, in large part because of recent corruption scandals and a drift in the management of the economy.

So the president has hit the campaign trail early with a recent broadcast that took as its premise her contention that the fundamental weakness of the Philippine state is that for decades dominant classes (which she did not identify) have shaped economic policy. There is nothing surprising in this analysis. What is surprising is that the president seems to believe that, given the chance, she can do something to address this weakness. Now all she needs to do is convince the voters. No doubt they listened carefully to her list of promises.

Mrs Arroyo called for a criminal investigation of the contract for a new, $657m international terminal at Manila airport. The deal left both the government and the German investors who put up most of the money feeling cheated, and the president has now torn up the contract. She said she would abolish a government agency involved in the construction of a road to nowhere, just two kilometres of which cost $16m, more than three times what critics say it should have. The road is named President Diosdado Macapagal Boulevard after Mrs Arroyo's late father, who was a well-regarded president in the 1960s.

Dealing with another much-publicised matter, Mrs Arroyo challenged a congressman, Mark Jimenez, to prove his accusation that her justice minister, Hernando Perez, extorted $2m from him. Mr Jimenez is facing extradition to the United States for, the Americans say, making illegal election campaign contributions there. A few days later, Mrs Arroyo gave Mr Perez a much-photographed kiss on the cheek, leaving Filipinos to wonder if she had not already prejudged the case.

The president's broadcast sounded determined on economic matters. Although growth is chugging along at 3.8%, the government deficit is out of control, and investors complain of poor infrastructure. With tax and customs revenues falling short of their targets, Mrs Arroyo warned tax-dodgers and smugglers that she would see them in court. She said a bill to address banks' bad debts, once enacted, would free up banking resources for more housing and other development projects that the government cannot afford.

Mrs Arroyo urged Filipinos to stay with her as president: “Trust me. You will see what serious government can do, as opposed to what a merely popular government just promises.” This was a dig at the populist style of Mr Estrada. But she made an unashamedly populist promise that electricity users in Manila and the surrounding area would get refunds worth tens of millions of dollars. This follows a Supreme Court finding that the local electricity distributor had been overcharging consumers for years. The “dominant classes” have been warned.

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Australia's aborigines

A dispute over Mistake Creek

Dec 12th 2002 | SYDNEY
From The Economist print edition

Who should point the finger about the country's early history?

BITTER stories of aboriginal history scooped the top prizes on December 7th at the Australian Film Institute awards, the country's Oscars. Most of the celebrated films were on themes that the conservative coalition government, under John Howard, has derided as the “black armband” view of Australian history. “The Tracker” confronted a tale of a massacre of aborigines by white authorities in frontier Australia; and “Rabbit Proof Fence", awarded best film, dealt with the “stolen generations” of indigenous children removed by white authorities from their families to “save” them from an inferior life. Phillip Noyce, director of “Rabbit Proof Fence”, called on Mr Howard to apologise to aborigines for Australia's past injustices as a Christmas present.

But Mr Howard has refused to apologise. As Australia's film-makers were challenging him, its historians were embroiled in a parallel controversy over the truth about violence in Australia's frontier history. It was sparked by “The Fabrication of Aboriginal History”, a new book by Keith Windschuttle, a historian. Australia's historical establishment, he claims, has largely fabricated and mythologised the notion that British settlement of Australia from the late 18th century was a story of genocide of its indigenous people.

His chief target is Henry Reynolds, probably Australia's most influential historian of frontier Australia, who argues that 20,000 blacks were killed during Australia's frontier era and that a “majority” of aborigines have a relative or antecedent “who was gunned down, whipped, raped or...taken away, often for ever, by white people”. Mr Windschuttle also blasts Sir William Deane, a former High Court judge who served a term as governor-general. Sir William publicly apologised to aborigines at Mistake Creek, in Western Australia, for a colonial massacre of their people by whites, an incident that Mr Windschuttle claims did not happen.

Who is right? Mr Windschuttle's book, focusing on Tasmania up to 1847, is the first of three volumes based on his trawling of colonial archives; he says they invariably refute the indigenous oral history on which most “orthodox” historians have relied. He claims the British killed “only” 118 of Tasmania's original inhabitants, challenging the notion that the island's aborigines were all but wiped out in a series of “black wars”.

His critics are rallying. But conservatives have found a champion in Mr Windschuttle over his assertion that the received view of a blood-soaked Australian frontier is a myth “designed to create an edifice of black victimhood and white guilt”. That sounds like Mr Howard talking. To which Mr Windschuttle replies that he is a former Marxist who once lauded the “orthodox” line in his lectures. “I smelt a rat. I went to the primary sources and saw the whole thing fall apart before my eyes”, he says.

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Afghanistan

Money to burn

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The country gets a new currency

Get article background

DONKEYS have been carrying unusual loads into the market town of Qal-e-Naw, in Afghanistan's remote western province of Badghis: bundles of unwanted banknotes. Qal-e-Naw is one of 47 centres where Afghani notes have been arriving from remote villages, sometimes travelling through snowy mountains for several days. After being dyed pink or green to make sure they remain out of circulation, the notes are counted and passed along a chain of men who dump them in a furnace. Since October 7th, Afghan authorities have been replacing the old currency with crisp new notes, printed in Europe and including the latest security features. The value of the afghani, which plunged to 70,000 to the dollar in November, has now stabilised at around 45,000.

The central bank in Kabul has ordered 27.9 billion new afghanis, about half of which will be kept in reserve. The new money is being distributed in a country without a banking system, where decent roads exist only in memory and security is dicey. The operation makes the introduction of the euro look like a walk in the park. Much of the money has been dispatched by air, but bad weather, spats with air-traffic control and insurance headaches over the planes and helicopters leased for the occasion mean that distribution has been delayed. Queues of Afghans waiting of their new cash have been getting longer. Now the deadline for exchanging old money for new has been postponed until early January.

Until now, at least three different afghanis have been coexisting: one version printed by the former government of Burhanuddin Rabbani and then used by the Taliban; another produced while the Rabbani government was in exile; and a third printed by Abdul Rashid Dostum, a warlord based in northern Afghanistan. During the 1990s, printing money was the method of choice to pay government bills, and it is unclear how much of this money is circulating.

New notes should make life literally less of a burden for Afghans, who have had to carry ever-heavier wads of currency as it lost its value. The new afghani is worth 1,000 old ones (except for the Dostum version, worth half). And the unforgiving Afghan winter has been made a bit warmer for central bank employees, who destroy the old notes by shredding them and use the bits to heat their homes.

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Iran and Iraq

Neighbours from hell

Dec 12th 2002 | QOM, AHWAZ AND SANANDAJ
From The Economist print edition

Iran's rulers want Saddam Hussein to go, but dread the manner of his going, especially if his successors give rein to Shia free thought and Kurdish aspirations

Get article background

NO COUNTRY, Iraq apart, has suffered as much at the hands of Saddam Hussein as has Iran. The war that followed Iraq's invasion of Iran in 1980 cost the country half a million lives, and around $70 billion. Iranians are the only non-Iraqis to have endured large-scale Iraqi chemical attacks. Immediately after Iran's 1979 revolution, Iraq stirred insurgencies both in Iranian Kurdistan and in Iran's Arab-dominated province of Khuzistan. When George Bush talks of danger emanating from Iraq, Iran listens.

But Iran's anti-American ideology prevents it from allying itself wholeheartedly with Mr Bush to unseat Mr Hussein: there is national animus against America's president for putting Iran alongside Iraq in his “axis of evil”. And though Iran wants to rehabilitate itself in America's eyes, Washington has made plain that it has no time for Iran's theocratic regime, and is waiting for Iranians to topple it.

So the prospect of American action against Iraq fills Iranian officialdom with dread. Iran hates what Iraq is, but fears what it could be: an American client, only feebly opposed to Israel, and dominated by a Sunni-led army that is viscerally hostile to Shia Iran. A reconstructed Iraq might threaten Iran in several ways. If it institutionalises the de-facto self-government that is enjoyed by the Kurds of northern Iraq, it would raise the hopes of Iran's own, autonomy-seeking Kurds. Even worse, Iraq's oppressed Shias, who constitute at least 55% of the population, might use their new freedom to debate that thorniest of Shia issues: the entanglement of politics and religion. This deeply worries Iran, which built its Islamic republic on that entanglement, and does its best to suppress debate about it.

Iran remained neutral in the 1991 Gulf war, but not in its aftermath. After George Bush the elder incited rebellion in southern Iraq (as well as in the north), Iran's neutrality gave way to adventure. Using soldiers from Ayatollah Muhammad Baqer al-Hakim's Supreme Council for Islamic Revolution in Iraq (SCIRI), a Tehran-based group of Iraqi Shias, as well as its own Revolutionary Guards, Iran tried to turn the rebellion into an Islamic revolution. The attempt backfired when an alarmed Mr Bush, under pressure from Sunni-dominated Saudi Arabia, abandoned the rebels to Mr Hussein, who slaughtered some 30,000 people.

Mr Hussein then drove 8,000 Shia clerics out of the shrine city of Najaf. He went on to murder, or so it is thought, four of Iraq's top-rank ayatollahs, and dozens of other senior clerics. Three senior ayatollahs survive in Iraq, though attempts have been made on the lives of two of them. The main beneficiary of this repression was Qom, the Iranian seminary town to which many fled. The city is currently host to 3,000 Iraqi clerics.

But since the 1979 revolution, Qom has been home to the strain of political activism that is at the heart of Iran's theocratic regime. In Qom, you can get into serious trouble if you declare your opposition to clerical rule, or to the theology that underpins it. However, many feel that the faith's real home is across the border, in Najaf and Karbala, which have more illustrious histories and more important shrines. If Mr Hussein were ousted, not only would there be an exodus of Iraqi seminarians from Qom, but many Iranian clerics might also be lured by the prestige of Iraq's holy places, and the promise of a less

patrolled political environment where they would be freer to criticise the theology that sustains the Iranian regime. The debate would then spread to their own country.

Iraq's Shia clerics are cool about Iran's theocratic system—a quasi-democracy supervised by Ayatollah Ali Khamenei, an unelected supreme leader with virtually untrammelled powers—and have no wish to foist something similar on their own countrymen. SCIRI, at least in theory, has joined the other opposition groups in signing up to western-style democracy. Mr al-Hakim has developed friendly relations with America, although he refuses American funding. Even the “Islamist Shias”—Iraqis who remain untainted by the country's secularism, and are roughly estimated to be about a third of the population—are said to be opposed to clerical rule.

Iraqi Shias tend to resent Iranian impositions. Two years into the Iran-Iraq war, they stoutly defended the southern part of their country when Iran invaded it. Many of them were angry when SCIRI's forces teamed up with the Iranian Revolutionary Guard in 1991. Were it not for Iran's interference, and Mr Bush's shocked response, they think their rebellion might have had a good chance of succeeding.

Mr al-Hakim himself commands respect as the son of a much-revered ayatollah. His large family is said to have lost over two dozen members to Mr Hussein's death squads and executioners. But if he is to become the undisputed spokesman of Iraq's Shias, he will have to demonstrate his independence. At present, he has little, since Iran can veto any SCIRI initiative.

The Army of Badr on the move?

Looking ahead to a possible uprising, Mr al-Hakim hints that his (Iranian-armed and based) standing army, the Army of Badr, might invade. But his people in Khuzistan, which is contiguous to Iraq's strategic port of Basra, are not so sure: freelance agents and saboteurs, they say, will light the match of popular rebellion. Salah Moussavi, the local SCIRI representative, doubts whether Iran would allow the Army of Badr to piggyback on an American invasion—and the Americans might well regard the army, with its Iranian links, as an undesirable partner.

America and Iran are exploring the possibility of limited military co-operation. The most recent contacts, which apparently took place on the sidelines of the meetings of Iraqi dissidents, are said to have involved Iran's intelligence people. This would mark a welcome change, in American eyes, from the run-of-the-mill meetings with Iranian diplomats.

At the same time, there is still a degree of Iranian-Iraqi co-operation. As a gesture of goodwill, Mr Hussein has restricted the activities of the People's Mujahedeen, an armed Iranian opposition group based in southern Iraq. More than a year has elapsed since the Mujahedeen last launched a serious attack on Iranian soil. Possibly as a quid pro quo, Iran has been restricting the activities of the Army of Badr. A painfully attenuated process of prisoner-of-war exchanges is almost finished: Iraq is now thought to be holding fewer than 1,000 Iranians, though Iran probably has more Iraqis.

But, squirming under American scrutiny, the Iranians feel obliged to place strict limits on this co-operation. In the summer, Iran turned down Iraq's request that it return some 100 warplanes that Mr Hussein had entrusted to Iran during the Gulf war. And Iran no longer turns a blind eye to Iraq's smuggling of oil through the Gulf; the Iranian navy has intercepted offending ships and impounded their cargoes.

The two countries exist in what Iraq's foreign minister, on a recent visit to Iran, described as neither peace nor war. This is an awkward state of limbo, and the province of Khuzistan reflects it. Despite the continued importance of its oil, Khuzistan comes third in Iran's provincial unemployment charts. It is home to 120,000 Iraqi migrants, most of them poor, and six sad refugee camps. Fear of hostilities has precluded investment, pushed tribal Arabs out of fertile border areas, and led to a middle-class exodus. In Ahwaz, the provincial capital, everyone wishes that Mr Hussein would go, but fears the manner of his going—including the fear of Iraqi missiles being fired Iran's way if Iran connives actively at his departure.

At least Khuzistan's anxieties coincide, roughly, with those of

Iran in general. They are not complicated by separatist visions: Iran's Arabs seek more representation in the government that exists, not a different government altogether. This cannot be said of the Kurdish-majority areas to the north. Iran's 5m-odd Kurds are alienated by ethnicity, and often by confession too. Most of them are Sunni—like their cousins in northern Iraq.

These cousins, in their western-protected safe haven, had a calamitous time early on, cursed by the infighting of the KDP and the PUK (the two main Kurdish factions), and by the military intervention of, variously, Turkey, Iraq and Iran. But they are now building a viable home. Kurds everywhere are proud of them.

In October, when the KDP and PUK held their first joint session of parliament in eight years, the satisfaction spread to Sanandaj, the capital of the Iranian province of Kurdistan. According to Abdol Momen Mardoukh, who advises the provincial governor on social affairs, Iraqi Kurdistan, especially if its autonomy is recognised within a future Iraqi federation, could provide a model for Iranian Kurds.

Since Muhammad Khatami was elected Iran's president in 1997, his representatives in Kurdistan have gone some way to reversing years of discrimination. They allow the Kurds, both Sunni and Shia, to be better represented in the provincial bureaucracy, and have granted them greatly enhanced cultural rights.

But Iran's conservative clerics are deeply alarmed when Iranian Kurds express their admiration for Iraqi Kurdistan. They suspect moderates, such as Mr Mardoukh, of secretly supporting the outlawed Kurdish groups that fought, unsuccessfully, for self-determination in the 1980s. (These groups now survive, emasculated, in northern Iraq.) Furthermore, they regard the advancement of Sunnis, or the lacklustre promotion of the Shia faith in Sunni areas, as a dereliction of duty.

Some people in Sanandaj detect Ayatollah Khamenei's hand in the appointment of a non-Kurdish Shia official to be provincial governor. Iran's Revolutionary Guard vetoed efforts by Jalal Talabani, the Iraqi Kurd whose PUK enclave adjoins Iranian Kurdistan, to broker an accommodation between the Iranian government and Iran's outlawed Kurdish Democratic Party of Iran (KDPI), which has taken sanctuary in Mr Talabani's territory.

The Iranian-Turkish partnership

Iran is seeking alliances with other governments who feel themselves threatened by Kurdish prospects. Co-operation with Turkey has increased since the battlefield demise of Turkey's Kurdistan Workers Party (PKK), which used to take sanctuary in Iran after attacking Turkish targets. In the summer, Mr Khatami used a trip to Turkey, whose opposition to an independent Iraqi Kurdistan is even more virulent than Iran's, to reiterate his own firmness.

If the Iraqi Kurds were to declare their independence, Iran and Turkey would gang up to stop them. For now, Iran hopes to influence events mainly through its ally, Mr Talabani, and his PUK. Mr Talabani keeps a beady eye on KDPI operatives in his enclave, and allows Iranian agents to roam freely. In return, he receives diplomatic, economic and military aid.

Yet there is little trust on either side. This summer, the head of the Revolutionary Guard castigated Mr Talabani for backing American policy towards Iraq. And Mr Talabani has made much of the threat posed by Ansar al-Islam, a small group of Sunni fanatics with supposed links to al-Qaeda that operates in his territory. Fearful of America's reaction, Iran has downgraded its support for the group, which it had used against Mr Talabani as an occasional irritant. There are reports that Iran has given America transcripts of interviews with Ansar's leader, Mullah Krekar, who was picked up in Tehran this year, before being deported to the Netherlands.

In a sense, Iran is in a strong position to influence events in Iraq. It has godfathered an alliance between

the PUK and SCIRI—which may also include the KDP after a visit by its leader, Massoud Barzani, to Tehran this week. This was Mr Barzani's first visit in eight years, and he saw a lot of big shots, including intelligence people. Counted together, the Kurdish parties and SCIRI pack incomparably more punch than the other Iraqi opposition groups combined. But pacts of this kind mean little without America.

And Iran's relations with America are dismal. Mr Khatami plainly dislikes Mr Bush, and Mr Bush has little time for the Iranian reformists or Mr Khatami's elegant disquisitions on civilisation. Worse still, as Mr Khatami feels his way through a protracted domestic crisis, he suspects Mr Bush of trying to tip Iran into chaos.

Iran is bitter that it got no American thanks for having helped Afghanistan's Northern Alliance to topple the Taliban. Instead, the Americans berated the Iranians for a few acts of mischief that were probably carried out at the behest of Mr Khatami's conservative opponents.

Angling for Iran's co-operation on Iraq, Mr Bush has resisted pressure to send messages of support to the Iranian students who have now been demonstrating against the regime for more than a month. But Iran's fear is that once the Americans have dispatched Mr Hussein, their next target will be Hizbullah, the Lebanese Shia group that Iran founded in the 1980s, and which it has armed and financed, though not generously. At the very least Mr Bush is bound to ask tough questions, and today's enfeebled Iran, torn between reformists and conservatives, is ill-equipped to answer difficult challenges.

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Syria, Iraq and Britain

Mr Assad goes to London

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Syria, like Iran, takes precautions

Get article background

THE Syrians are unlikely players for the war-on-terror team, especially now that the goalposts have been stretched to take in their neighbour, and fellow Baathist dictatorship, Iraq. Aside from making pots of money smuggling Iraqi oil, Syria has long been fingered as a supporter of terrorists, keeps an annoying boothold in Lebanon and is also believed to store some toxic weaponry of its own. Yet, early next week, Buckingham Palace will be unrolling red carpets to receive Bashar Assad, the first Syrian president to be granted that honour since independence in 1946.

British officials say the visit has long been planned, and has nothing to do with coalition building. The picture looks different from Baghdad, which sees Britain and America relentlessly prodding and coaxing every one of the countries surrounding Iraq into some form of collaboration.

AP

Bashar needs help from down here, too

The first sign of Syrian “betrayal” came in November when, after much fiery championing of Iraqi rights, it abruptly voted in favour of Security Council Resolution 1441. Mr Assad's visit to London is a more symbolic gesture, but comes amid other subtle signs that Syria is trying to ensure itself a soft landing in a post-Saddam world. It has, for example, maintained low-key talks with the Americans, resisted Iraq's demands to crack down on Iraqi exiles in its territory, and moved to improve the status of its own large and long-suffering Kurdish minority.

Syria's fear that, after Iraq, it would become the next focus of American pressure is similar in some respects to Iran's (see article). It would find itself surrounded by America's allies, including a bad-tempered Israel, and damned both for its support for Hizbullah, the Shia militia in Lebanon, and for playing host to violent, rejectionist Palestinian factions.

But if Mr Assad finds it soothing to hold the hand of America's biggest ally, the British also have an interest in calming his nerves. The 38-year-old leader has tried, albeit with patchy success, to promote reform at home. He needs encouragement in that, and deserves a reward for Syria's quiet but crucial intelligence help against al-Qaeda. He also holds important keys to regional peace, including his ties with unsavoury groups. With blood still gushing between Israelis and Palestinians, the need is to line up as many regional leaders as possible on the side of tranquillity.

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Iraq's weapons

Lethal poker

Dec 12th 2002 | CAIRO
From The Economist print edition

Iraqi wargames take another twist as Saddam declares his hand

Get article background

THE questions are not new. Will Iraq squirm out of its predicament? Will the United States find an excuse to clobber Saddam Hussein? But with the American sword looking ever sharper, Iraq's parrying words sound ever more desperate. The intensifying UN searches on the ground have now been joined by the scouring of Iraq's freshly delivered weapons declaration, and the suspense keeps rising.

The latest turn in the plot came with Iraq's prompt handover of a hefty dossier detailing the history of its weapons research and development. The Security Council's Resolution 1441 had given the country 30 days to produce such a list. In the event, much of the 12,000-page stash proved to be a rehash of declarations made before Iraq stopped the inspections in 1998. However, plenty of it was new, and plenty is likely to prove explosive, though not necessarily in ways that America's hawks would like.

Red faces

This partly explains why America, controversially, arranged for the circulating copy of the dossier (the other copy stays with the UN monitoring mission) to be taken straight to Washington rather than distributed to all 15 Security Council members. The American authorities then copied the documents for the other four permanent members, who agreed that the ten rotating members of the council would receive expurgated versions.

The reason given for this, and the one helpfully acknowledged by Iraq, was that the documents include material on how to make an atom bomb. Just as important was the possibly embarrassing disclosure of countries and firms that have supplied Iraq with its weapons kit. All five of the big powers are likely to be mentioned, with the biggest onus on countries that have continued to supply Iraq since the imposition of UN sanctions in 1990. This information could help Iraq by stirring dissension in the UN. If kept under wraps, however, it could give the Americans blackmail leverage with countries that are reluctant to back its hardball approach.

Iraq's timely delivery put the United States on the spot. Analysing the mound of data will take time, and America is impatient for a resolution now that its costly military deployment in the region nears completion. More to the point, it adds to the pressure on Washington to reveal its own hand. American officials have repeatedly accused Iraq of lying, citing intelligence that disproves Mr Hussein's assertion that he has nothing to hide.

Despite the American contention that it is up to the Iraqi leader to prove his innocence, much of the world now expects America to produce evidence proving his guilt. Indeed, Article 10 of Resolution 1441 requests all countries to hand over “any information related to prohibited programmes” in Iraq that they may have. It would be ironic for America to breach the resolution before Iraq is caught doing so.

For his part, the inspections chief, Hans Blix, said that he would conceal the names of Iraq's suppliers anyway. To expose companies by name, he said, would only make it more difficult to persuade others to co-operate. Meanwhile, his rapidly expanding teams quickly put the new information to use, swooping on facilities that had not been on their previous lists.

As the weapons tussle continued, Iraq pursued its defensive diplomacy. Predictably, it tried to exploit America's snatching of the documents to score points by hinting that it might have tampered with them

to its advantage. This is unlikely given that another full set exists, but Iraq's dust-kicking has already succeeded in clouding views of America's intentions, especially within the Middle East.

Mr Hussein also tried to win some ground with a first-ever public apology to the people of Kuwait for his country's 1990 invasion of the neighbouring emirate. The crocodile tears proved toxic, however, since he tempered them with jibes at Kuwait's rulers, along with a dash of encouragement for Kuwaiti “patriots” to mount attacks against the American troops now massing on their soil. Kuwait's government, understandably, snarled back that this was more an act of incitement than an apology, and also noted that Mr Hussein had failed to mention the fate of the 600-odd Kuwaitis who have been missing since the Iraqi invasion.

Mr Hussein's penitent posturing does seem to have had some effect at home, however. He has taken to projecting himself as having mellowed into a kindlier beast, especially in contrast to the bullying Americans. Since emptying his prisons in October, he has also slashed exit taxes to relieve his cabin-feverish subjects, invited exiles to return, and allowed talk of a new multi-party constitution. Whether or not the United States topples the dictator, its pressure is already bringing tiny wisps of relief to his battered people.

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North Korean Scuds

What have we here?

Dec 12th 2002
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Drama and farce on the high seas

ON DECEMBER 9th, two Spanish warships—patrolling the Arabian sea as part of international efforts to stop al-Qaeda militants from sneaking into or out of the Horn of Africa—intercepted a shady-looking ship some 600 miles (950km) off the African coast. The *So San* had reportedly been tracked from North Korea by American intelligence. On board, the Spanish, along with the Americans they summoned, found 15 Scud missiles and warheads, plus a quantity of chemicals. It looked like a triumph—but has turned out to be a diplomatic own goal.

In the 1991 Gulf war, the failure to find Iraq's Scuds before they were shot off to Israel and Saudi Arabia was one of the few military failures of the campaign. With America seemingly set on another war with Iraq, a repetition was not required. So it was a remarkably rotten time for another member of George Bush's three-country “axis of evil” to be caught shipping Scuds in a middle easterly direction.

And, it has to be allowed, the behaviour of the *So San* was suspicious. It tried to evade its Spanish pursuers, who fired warning shots to stop it, before Spanish marines descended on to its deck from helicopters. The missiles were found hidden under thousands of bags of cement. The Americans impounded the ship, and attention turned to Yemen, which appeared to be its destination.

Give us our missiles back, indignantly demanded the Yemeni government, explaining that their purchase was a legitimate business transaction. Selling missiles is not the nicest of trades—and North Korea helps greatly in their proliferation—but it is not necessarily illegal. North Korea is not party to an international pact designed to limit the spread of missile technology; and it has a long history of selling kit to Yemen. On December 11th, America was obliged to let the *So San* and its cargo go.

Could terrorists, not the Yemeni army, be the Scuds' true final destination? Unlikely: a lot of apparatus is needed to launch a Scud, and weapons experts believe that few terrorists could rise to the challenge. Moreover, the Yemeni government has been co-operating with America in fighting its home-grown terrorists.

That's the trouble about this drama-turned-farce. America could find that it has alienated the co-operative Yemenis, and aggravated relations with North Korea at an unusually delicate time.

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The Balts and the European Union

Welcome aboard!

Dec 12th 2002 | TALLINN AND VILNIUS
From The Economist print edition

The three Baltic states have already had to transform their economies beyond recognition to get into the EU. Now that they are just about in, what next?

Get article background

OF ALL the stunning transformations that have changed the map of Europe since 1989, the Baltic states' shift from Soviet captivity to membership of the top western clubs is among the most remarkable. In the first fragile years of independence, prosperity and security seemed equally distant. Yet in a few short weeks this autumn, Estonia, Latvia and Lithuania have been formally offered NATO membership, and now, at this week's Copenhagen summit, they will be invited to join the European Union, probably in mid-2004. The contrast with the miserable life further east, in Russia, Belarus and Ukraine, has never been bigger.

But making normality work will be a hard slog too. “Small is beautiful when you want to move and change,” says an EU official. “It isn't so beautiful when you want to attract investments.” He is speaking in Tallinn, the small and beautiful capital of Estonia; but his words sum up the challenge facing all three.

In the past few years they have worked wonders to satisfy the nit-picking requirements of the EU. The Balts are so stable and orderly as to be almost boring—which, says Toomas Ilves, a former Estonian foreign minister, is as it should be. Now EU membership brings new opportunities and challenges aplenty. More trade and investment, freedom of movement for their citizens, and the chance to act as bridges between west and east are big pluses. But in many ways reform is still just starting.

Take the Lithuanians. They like to joke that they have the safest Soviet nuclear power plant in the world. The EU has spent millions of euros to prevent the Ignalina plant, which generates four-fifths of the country's electricity, from suffering the same fate as the similarly-designed Chernobyl reactor, in Ukraine, which blew up in 1986. And yet it is still not up to scratch, which is why millions more will be poured into helping Lithuania close it by 2009, a decade early.

Ignalina is symbolic of the Soviet legacy, from which all three Baltic economies continue to suffer. Baltic GDP per head is little more than one-third of the EU average. Business is still generally low-tech, particularly in agriculture, where Latvia and Lithuania's workforces have around three times the proportion of farmers and one-third the productivity of the EU average, and that is already a

good deal better than ten years ago. EU competition will hurt not help the hundreds of thousands of small, near-subsistence farmers who cannot compete with big, modern producers. Most will have to find other work. Economic development is unevenly spread: 80% of Estonia's booming foreign direct investment, for example, is in Tallinn.

Likewise, say critics, free trade with the EU countries may be good for big businesses, but hard on small ones, and they will all struggle with the extra cost of meeting EU rules on such things as workplace safety and environmental protection. When *Verslo Zinios*, a Lithuanian business newspaper, polled its readers on which stories interested them most, it found that those on EU accession ranked surprisingly low. “It will come as a shock to some of them to discover that they are not a Lithuanian company but a European company,” says Rolandas Barysas, the paper's editor.

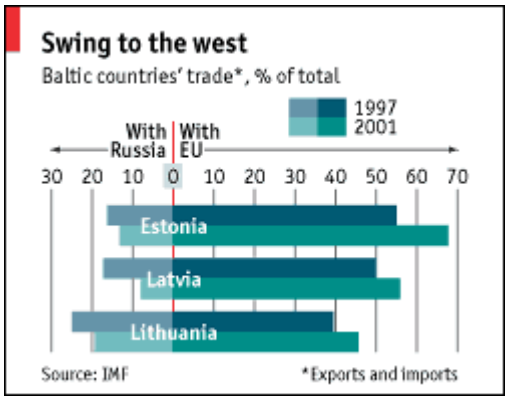
Estonia's worry is different. Nordic-mindedly open and transparent, it has virtually no trade barriers, so joining the EU means raising them. Getting into the EU is in some ways a step backwards to more barriers and bureaucracy. Of the three, Estonia is where opinion polls find the lowest support for EU membership; only in the past year has it nudged above 50%.

But petty rules and painful changes, says Mr Ilves, are the price to be paid for belonging to the club. Among the billions of dollars available in restructuring funds, which the countries will keep getting until their GDP per head reaches 75% of the EU average, are portions for agriculture and small businesses. The European Bank for Reconstruction and Development also lends money more cheaply to local banks if they in turn lend a certain amount to small firms and those outside the capitals. If anything, say officials, the countries' problem has been to come up with enough well-formulated projects to use up all the money on offer.

It will all be no good, however, if the Balts cannot find new sources of employment. Officials in all three countries talk about shifting the emphasis to high-tech, “knowledge-based” industries. These account for only 6% of Lithuania's economy, says Andrius Kubilius, a former prime minister, as against around 25% in the EU as it now is.

Each country is developing its niches. Estonia embraced information technology early (people can pay for anything from on-street parking to restaurant bills through their mobile phones), while Latvia plans to make the most of its experience as one of the Soviet Union's main pharmaceutical-development centres. But they will be in tough rivalry with each other, not to mention the rest of the EU.

Which is why there is also a debate about ways to stay competitive. Labour costs are low now, but will not stay that way for ever. One unresolved issue for Europe as a whole is whether countries should be allowed to keep control of their tax policies or have Brussels set them. Many Balts think their relatively low levels of corporate income tax (Estonia cut its rate to zero two years ago) will be one of their few selling points to foreign investors, though there is little evidence as yet that it makes a difference.



Yet despite the challenges, and sizeable Eurosceptic minorities in every Baltic country, there are no concerted anti-EU movements. All three governments are confident that their people will give their nod in referendums next autumn. The alternatives are grim—either a return to Russia's orbit like Belarus, or the in-between status of dirt-poor ex-communist countries like Moldova. As Henrik Hololei, head of Estonia's office for EU integration, puts it, “Either you're in, or you're in...somewhere else.”

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Poland's right-wingers

On the rise

Dec 12th 2002 | WARSAW
From The Economist print edition

Right-wing Polish parties are gaining strength but still need serious policies

Get article background

THESE are wearying days for Leszek Miller's Democratic Left (ie, ex-communist) government. Negotiations with the European Union have—in many Polish eyes—ended ingloriously, even though the country is expected this weekend to be formally invited to join the club in 2004, along with another nine countries mainly from Central Europe. A fifth of Poland's workforce has no job. A miner's strike in the offing could hurt the economy badly. Good news, then, for Poland's conservatives, who were crushed and splintered into four parties by Mr Miller's political machine in last year's general election, but who are now reviving.

The largest of the right-wing parties is Platforma, a middle-of-the-road bunch of free-marketeers who are keen for Poland to join the EU. But it is rudderless, beset with internal rivalries, and will be lucky to survive the next election. On the far-right, Samoobrona (Self-Defence) and the League of Polish Families have both done better than expected, their fiercely Eurosceptical message evidently resonating well in recent local elections in the provinces. Samoobrona's fiery, media-savvy leader, Andrzej Lepper, has managed to extend his party's base from worried farmers to marginalised Poles in towns across the country. The League of Polish Families spreads the word that the EU is a communist plot, an idea that appeals to ultra-nationalists and religious conservatives.

But the right-wing force that is rising fastest is Law and Justice, a party elected on a populist anti-crime platform that puts it roughly between the technocrats of Platforma and the xenophobes of Samoobrona. It is headed by identical twins, Jaroslaw and Lech Kaczynski, who are still affectionately remembered by many Poles for their childhood film-star roles.

Jaroslaw runs the show, while Lech, a no-nonsense justice minister in the last conservative government, is the star. Last month Lech was elected mayor of Warsaw in a landslide. Pundits are starting to talk of him as a successor to President Alexander Kwasniewski, who must step down in 2005. The new mayor supports Polish membership of the EU, but grudgingly; he is deeply suspicious of Brussels. In private he has little good to say about neighbouring Germany.

Platforma's decline has given the Kaczynski twins hope that Poland's rightish voters may rally round Law and Justice. Its social conservatism could attract the less anti-Semitic sorts who have supported the League of Polish Families. The Kaczynskis must, however, develop policies other than mere crime-bashing to become an effective opposition. Some Poles think a more radical, even Thatcherite, economic message might help, but economics is not their forte. Much will depend on how well Lech Kaczynski runs Warsaw. Unless he does that job well, his national popularity, based so far on his readiness to lock up villains, could fade pretty fast.

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Slovenia and Western Europe

Ready to join, but not mad keen

Dec 12th 2002 | LJUBLJANA
From The Economist print edition

Slovenia expects to join both the EU and NATO soon. But there are doubters

EPA

Steady, stolid Drnovsek puts a cap on it

AMONG the eight ex-communist countries likely to join the European Union in 2004, Slovenia is an oddity. Until 1991, it was part of Yugoslavia, not of the Soviet Union or its empire. It achieved independence in 1991 with barely any of the violence that ravaged Croatia and Bosnia. And, by ex-communist standards, its 2m people are well-off, the richest of the eight. Indeed, Slovenians these days like to deny that they are part of the Balkans at all.

For them, joining the EU has a double value. It both confirms their alignment with Western Europe and, however paradoxically, their independence: until 1991, Slovenia had been subject to outsiders throughout its history. At last, here it is, a nation free to choose for itself. In a referendum next year, its voters will probably choose to join the EU.

Not that they expect life inside the EU to be vastly better. Indeed, many have recently become warier of joining the club. They detect double standards in Brussels. Because Slovenia is rich, compared with, say, Poland, it has been squeezed by the EU to open its land to purchase by foreigners as soon as it joins, as Polish land will not be. But because it is also poor, compared with, say, next-door Austria, its people must wait seven years before they can move freely to work inside today's EU.

In GDP per head, Slovenia is about as rich as Greece. But while Greece has had lavish EU handouts, for being at the bottom of the EU's first division, Slovenia—it is felt—is paying for being at the top of the incoming second. But for EU concessions, it would probably have been a net contributor to the EU's budget from the day it joined. Even now, the EU assurance that new members will not be hit that way lasts only for their first three years. Thereafter, says the foreign minister, Dmitrij Rupel, “We could be in trouble.”

Its farmers have special fears. Slovene farming is more like that of Switzerland than of Poland's broad plains, and, to keep it solvent, farmgate prices are already high. So the EU's plans—in the early years—to subsidise the new members' farmers far less than those of current ones could mean that Slovene farmers would at first actually be worse off than now.

Doubts about the EU are more than equalled by doubts about NATO. The political elite was eager for the invitation to sign up that it got from the NATO summit in Prague last month. Ordinary Slovenians ask why. Some think their fellow Alpinists, the Austrians and Swiss, are right to cherish their neutrality. Overall, say pollsters, only half want NATO membership.

Still, that too would be a step away from their ex-Yugoslav cousins. Relations with Croatia are cool. The two have arguments over their coastal border, over an alleged debt of some $400m, going back to Yugoslav times, owed by a Slovenian bank to Croatians, and over the running of a jointly owned nuclear power plant.

In praise of dullness

Not that Slovenes are looking for trouble. They value stability. The man who led them to independence in

1991, Milan Kucan, has been president ever since. As he cannot stay on for a third term, Slovenes have just elected the current, centre-left prime minister, dull but steady Janez Drnovsek, who has held that post almost continuously since 1992, to replace him.

Mr Drnovsek's hopes of a first-round victory on November 10th were foiled by a lively rival, Barbara Brezigar, a former top prosecutor and justice minister in a short-lived centre-right government. But he won the run-off against her on December 1st comfortably with 56%.

Continuity may indeed be a problem in the years ahead. Mr Kucan, a former communist, is widely popular. He is also, say many anti-communists, at the centre of a shadowy, almost masonic, network of ex-communist apparatchiks that seems still to hold many of the levers of power.

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Politics in Germany

A government in turmoil

Dec 12th 2002 | BERLIN
From The Economist print edition

Even the chancellor's coalition allies, the Greens, are threatening him

Get article background

BASHING their chancellor seems to be Germans' favourite pastime. Everyone is at it, even Gerhard Schröder's supposed allies. His newly elected government is lurching from crisis to crisis. The economy is still dipping, unemployment and taxes are going up, holes in the government and welfare budgets are getting wider, and nearly 5m public-sector workers are threatening to strike. A parliamentary committee of inquiry is to look into the government's alleged “election lies”. Pollsters put the ruling Social Democrats' ratings at their lowest since they took power in 1998. Mr Schröder himself looks grey, puffy and burnt out, his legendary charm and pugnacity gone, his credibility battered.

Yet the Greens, the Social Democrats' junior coalition partner, had hitherto been relatively unscathed. After chalking up a record 8.6% of the vote in September's general election, they have been getting as much as 12% in the latest polls, while Joschka Fischer, the foreign minister who is their unofficial leader, remains far and away Germany's best liked and respected politician. But thanks to their ineptitude at last week's party conference in Hanover, they may now compound the mess.

For one thing, the Greens have made the mistake of dumping the most successful official two-person leadership in their party's history and replacing it with a pair of much feebler figures. This has undermined the Greens' standing in government and worsened their (and the Social Democrats') chances in February's state elections in Hesse and Lower Saxony, which are critical for Mr Schröder because he badly needs to gain control of the Bundesrat, Germany's upper house of parliament, where the states are represented.

The Greens have made the mistake of dumping the most successful official two-person leadership in their party's history

Under a long-contested rule, dreamed up in the party's egalitarian heyday, the Greens' party leaders are banned from holding parliamentary or ministerial posts. That is why Mr Fischer, despite his popularity, cannot serve as the party's official leader. It is also why Fritz Kuhn and Claudia Roth, until recently the party's two chairmen, could not keep their party posts after being elected to parliament in September. They could, of course, have given up their parliamentary seats. Instead, backed by Mr Fischer, they tried to persuade the party to change its rules. But at the recent conference they failed to win the required two-thirds majority.

No sooner was the new team, Angelika Beer and Reinhard Bütikofer, in office than Mr Schröder faced a new crisis that could threaten his government's very survival. Miss Beer, a former spokesman for the Greens on defence, declared that in the event of a war against Iraq without a UN mandate, the Greens would not agree to let the Americans use German airspace or their military bases in Germany. Mr Schröder, who has been bending over backwards to mollify the Americans since taking a virulent anti-war stance during the election campaign, had earlier assured the Americans that they could have unrestricted use of both, though he again ruled out any active German participation in such a war. Still unclear is the possible role of NATO's 17 AWACS reconnaissance aircraft that are based in Germany and manned by an 11-country squadron, one-third of whose personnel are German.

The Greens may also fall out with their Social Democratic partners over arms sales to Israel. German law generally bans the sale of offensive weapons to non-NATO countries, particularly if they might be used for internal repression. During a visit to Berlin this week by Israel's president, Moshe Katzav, Mr Schröder confirmed his government's willingness to provide Israel with ground-to-air Patriot missiles but fudged its answer to a request for Fuchs armoured personnel carriers. Because the vehicles could, say the Greens, be used against Palestinian civilians, they will try to block any attempt to export them to Israel. No public

mention has been made of an earlier Israeli request for two submarines. Mr Schröder merely says he is ready to give “help in other areas”.

After last year's terrorist attacks against the United States, when most Germans backed Mr Schröder's declaration of “unlimited solidarity” with the Americans, including the dispatch of German troops to Afghanistan, the traditionally pacifist Greens reluctantly went along. This time, with most Germans against a war with Iraq, they may try to force a showdown.

The chancellor has a majority of only nine in the Bundestag, parliament's lower house. If he called for a vote of confidence, as he did over Afghanistan, he might lose. The government would then collapse. Speculation is mounting over a possible “grand coalition” with the Christian Democrats. This week Mr Schröder was said to have told colleagues that if people think him no good at his job, “anybody who thinks he can do it better should do it”. That was not a serious resignation threat. But it is a grim time for the chancellor.

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Ireland's budget

The tiger tamed

Dec 12th 2002 | DUBLIN
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A tight squeeze, as the good years end

“WHEN I have it, I spend it and when I don't, I don't.” That is how Charlie McCreevy, Ireland's finance minister since 1997, likes to explain his approach to fiscal policy. On December 4th he delivered the country's toughest budget in years, raising taxes, cutting spending, in real terms, and keeping borrowing low. Nice book-keeping, says his critics—he used to be an accountant—but bad economics, just as the economy is slowing.

Sharp practice too, say the voters, who re-elected the Fianna Fail-led coalition in May, following a blithe reassurance from Mr McCreevy that “no cutbacks whatsoever are being planned”. The government's poll ratings are dismal.

The finance minister's problem—as indeed some critics vigorously pointed out, to little effect, before the election—is that he lost control of public spending. His huge budget surplus in 2000, 4.4% of GDP, became a deficit this year. He is struggling to regain control, and win back political credibility by cutting capital spending and some public services, to achieve a modest deficit—0.8% of GDP—in 2003.

His new budget also marks the end of Ireland's era of roaring economic growth. That boom peaked in 1999 with an 11% rise in GDP; the government's forecast for 2003 is 3.5%. One reason is a sharp slowdown in foreign direct investment, notably from the United States. Another is a loss of competitiveness; the chairman of Dell Computers, an American company that employs 4,700 workers in Ireland, has recently spoken out about this risk.

It has one perhaps short-term cause: inflation, now running at about 4.7% a year, more than twice the EU average, and forecast to be slightly higher in 2003. There is a deeper reason too: for all the years of spending, the country's infrastructure has not kept pace with its hitherto heady growth rate.

The country's infrastructure has not kept pace with its hitherto heady growth rate

And, further ahead, Ireland faces a big threat from Brussels. EU tax harmonisation is in the air, with recent support from France and Germany, no less. Ireland has already had to give up the long tax holidays once offered to incoming investors, but instead it now offers an exceptionally low corporation tax, a mere 12.5% from next year. Keeping that huge bait for business may be Mr McCreevy's greatest challenge.

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Crime in France

Nicolas Sarkozy on a wave

Dec 12th 2002 | PARIS
From The Economist print edition

Why is France's interior minister so popular?

Reuters

Top cop

CAN Nicolas Sarkozy, France's interior minister, do no wrong? Crime is down, by more than 5% last month compared with November last year; the pollsters say that people love him above all other ministers bar the prime minister; and even the left grudgingly admires his political talent. Indeed, on December 9th almost 6m viewers saw him triumph, in a two-hour grilling on live television, over a string of opponents ranging from media pundits and the Socialists' former minister, Elisabeth Guigou, to the extreme-right bogeyman, Jean-Marie Le Pen.

The reason, sniff the critics, is simple enough: Mr Sarkozy, relishing his reputation as France's "top cop", makes sure to hog the headlines. As the leftist daily *Libération* puts it, "He has one rule: go somewhere or say something each day—and in such a manner that never shall 24 hours pass without him being talked about."

That meant, within days of his taking office in May, much-photographed visits to the "difficult"—ie, crime-ridden—suburbs of cities such as Paris and Marseilles. In July it meant a surprise visit, the first of several, to Corsica. Last week he was in London to announce that the Sangatte refugee centre, the camp near Calais from which in the past three years some 60,000 would-be asylum-seekers have sought to enter Britain, would be closed on December 30th, four months ahead of a schedule agreed with the British. In between have come visits to police and gendarmerie stations galore; carefully crafted speeches on immigration and France's Muslims; and an agreement with Romania to crack down on the gangs who send young Romanians, especially Gypsies, to beg or prostitute themselves on the streets of France.

All of which impresses the voters—and makes Mr Sarkozy's fellow politicians seethe with jealousy. With a few exceptions, the left unconvincingly accuses him of introducing a climate of repression by beefing up the police, taking operational charge of the gendarmerie (which formerly reported to the defence minister) and adding yet more laws to the statute book. His reply is that since all French citizens, including those in the "difficult suburbs", have a right to personal security, the criticism amounts to a *droits-de-l'hommiste* ("civil-rights-ist") elitism.

So who's the enemy?

Meanwhile, the left is hard put to attack Mr Sarkozy on the plight of France's *sans-papiers*, the 200,000-400,000 immigrants without documents to back a claim for a right to reside. After all, he has promised that his ministry will both look case-by-case at each application for legal residence and will streamline the procedure to legalise those with family ties in France or with proof of ten years' residence. As to the touchy subject of Islam in France, he this week stressed French secularism but announced that with the agreement of the country's three main Muslim bodies there will nonetheless soon be a "legal identity" for the Muslim community in France.

The big question for Mr Sarkozy, therefore, is not so much opposition from the left, but the envy of his own colleagues, in particular Alain Juppé, a former prime minister and now the president of the Union for a Popular Movement (UMP), the main party of the right. Mr Juppé sees the UMP as a vehicle for carrying him to the French presidency when—or if—his mentor, Jacques Chirac, steps down in 2007. How

annoying, then, that it is Mr Sarkozy who is getting the good headlines.

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Charlemagne

The perils of Penelope

Dec 12th 2002
From The Economist print edition

An extraordinary plan to kick awkward members out of the European Union

Get article background

THIS weekend in Copenhagen, the European Union will sign and seal its largest-ever expansion. Barring last-minute mishaps, ten new members, mainly from Central Europe, will be invited to join the 15 already in the club. But while new entrants crowd into the Union, back in Brussels the finest minds at the European Commission are concentrating on a different problem: how to kick countries out. A draft European constitution, code-named "Penelope" while being drawn up in secret for Romano Prodi, the commission's president, and released just a week before the Copenhagen meeting, dwells in loving detail on the idea that any country that fails to ratify the new constitution should be booted out of the club.

To invite an array of new members to join the EU while preparing plans to expel others may sound paradoxical. In fact, the two ideas are linked. The constitutional convention under way in Brussels is trying to work out exactly how an enlarged EU of 25 countries is going to work. In traditional jargon, the problem has been posed as "widening versus deepening". Supporters of enlargement, in particular the British, have always hoped that a larger EU would make the federalist dream of a "deeper" United Europe impossible. How can you possibly impose common foreign, economic and social policies on 25 or more countries, with very different levels of wealth and national traditions? The federalists respond that a wider EU may actually demand deeper integration, pointing out that if all countries retained vetoes over many of the Union's actions, the organisation would get stuck.

There is an obvious compromise. The federalists are right that an enlarged EU will be able to work only if most decisions are made by majority vote. But their opponents are correct that the diversity of membership in a bigger EU suggests that the Union should do less. Indeed, it should withdraw from whole areas—from social policy, for instance—where there is little case for pan-European action.

Europe's constitutional convention, which probably has some six months to run, shows little sign of accepting this compromise. Penelope is unequivocal about the need for ever-tighter Union. She speaks of a Europe whose vocation is "to exercise the responsibilities of a world power." That means a single foreign policy decided by majority vote, and a mutual defence guarantee. The constitution should enshrine "a European model of society"—meaning more, not less, social legislation. The EU should be given the right to raise its own taxes. It should also have expanded police powers and be able even to intervene to restore public order in a member state, although only (you may be relieved to hear) "in a spirit of solidarity". All of the above should be decided by majority vote.

Penelope, in short, is an extreme federalist, and many of her suggestions will be binned before the convention ends. But some of her ideas will get through, reflecting the strong federalist presence on the convention floor. The final draft will probably include a commitment to a common defence, the setting of harmonised taxes by majority vote, and expanded powers for an embryonic European police force and prosecutor's office. Several countries will find some or all of this very hard to take. The British and the Irish are allergic to the idea of tax harmonisation. The Danes have always been wary of the EU's expansion into policing. Neutral countries like Sweden, Finland, Austria and Ireland will be alarmed by what they may see as the EU's "militarisation". And whatever the convention suggests on the vexed issue of the balance of power between the European Commission, the Council of Ministers and the European Parliament is bound to distress one country or another.

The final draft will probably include a commitment to a common defence, the setting of harmonised taxes by majority vote, and expanded powers for an embryonic European police

That could be a big problem. As things stand, any new EU constitution, before it comes into force, will have to be approved unanimously by all 25 countries that will be in the club by 2004. Even if awkward governments succumb to peer pressure and sign up, their electorates may still reject the treaty. Ireland and Denmark are constitutionally bound to have referendums, and their voters have rejected European treaties before.

force

Sign up or ship out

The EU's forward-planners are vexed. How, they ask, can 4m Irish people be allowed to block the adoption of a constitution for 470m Europeans? The threat of an Irish or Danish rejection, they reckon, is heightened by the fact that a no vote will have no tangible consequences for a recalcitrant country. Hence their suggestion, ever so politely put, that any country that fails to ratify should leave the Union. It is not just Penelope who is arguing for this. More significantly, Valéry Giscard d'Estaing, a former French president who is chairing the convention, also favours this “constitutional rupture”. The commission's lawyers reckon that the awkward legal requirement for unanimous approval could be circumvented by getting all EU countries to make a “political declaration” that any country that rejects the constitution will agree to leave the club. As one senior commission official explains: “We need to push countries up against the wall and say, ‘in or out?' ”

Britain, Ireland, Denmark and others will fight hard against being pushed up against this particular wall. But if the commission and Mr Giscard d'Estaing get their constitutional rupture written into the treaty, they may come to regret it. It is precisely the Union's wealthiest and most stable members who are often most attached to their own institutions and most likely to resist having a new European constitution forced down their throats. And it is the poorer and historically less stable countries that are least likely to risk leaving Europe's “rich man's club”. The federalists have always been uneasy about letting poor Central Europeans in. How ironic if the EU found itself ushering in new members by the front door while inadvertently pushing some of Europe's richer and older democracies out by the back.

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Transport

Gridlocked Britain

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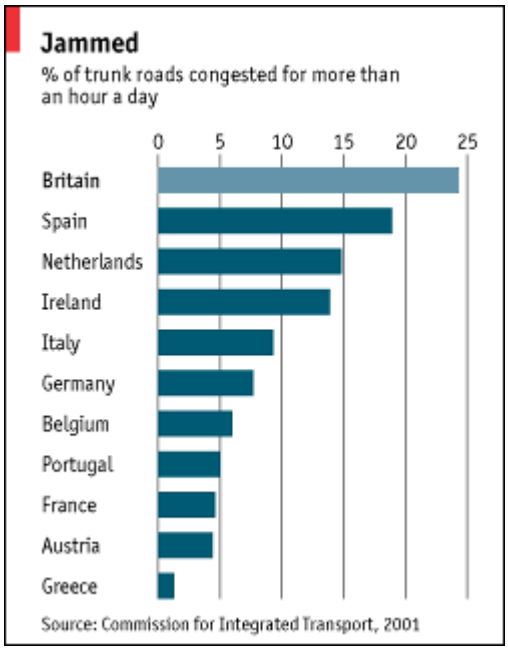
The government got it wrong on roads. But Tony Blair's new road-building programme is not going to relieve congestion on its own

THE central promise in the government's ten-year transport plan was the pledge to reduce congestion by 6% by 2010. Alistair Darling, the transport secretary, is shortly to abandon it. He now accepts that, unless there is a recession, congestion is going to increase by the end of the decade. “You cannot build your way out of this problem,” he says. “You have got to think of imaginative and innovative solutions.” Though he is wary of publicly backing road pricing, his department is scrutinising the option. Much hangs on the fate of London's £5 ($7.90) a day congestion charge scheme (see article).

British roads are already by far the most congested in Europe. Since Labour came to power in 1997, the amount of working time lost due to congestion has increased by almost 50%. British drivers already spend twice as long as Italians each day commuting to work. The Freight Transport Association's latest quarterly survey of its members (who run half the nation's lorry fleet) reported the worst-ever levels of delay. This congestion is, according to the CBI's admittedly crude estimate, costing the country about £20 billion a year.

The present may be grim but the prospects are worse. While the costs of motoring are declining, as cars become cheaper, the costs of public transport are increasing. TRL, the privatised arm of the former Transport Research Laboratory, predicts that on present trends road journey times could increase by as much as 85% by 2015.



When the government published its ten-year transport plan in July 2000, building roads was dismissed as not a sustainable solution to congestion: “Simply building more and bigger roads is not the answer: we need a more strategic approach.” Two years on, this policy has been modified. This week the transport secretary unveiled a £3 billion package of road schemes including the widening of some of the most congested motorways.

The announcement was hailed as though it were the biggest road-building programme since the Romans. In fact it is a modest bundle of long-overdue road improvements. It will take years of consultants' reports and planning inquiries before an inch of new concrete appears.

Moreover, without road tolls or some other means of restraining demand, the new roads will soon be as badly congested as the old ones. Denvil Coombe, a transport adviser to the government, has pointed out that within a year of the M25 being widened, traffic nearly doubled between Junctions 9 and 10, wiping out any benefits. The chairman of the government-funded Commission for Integrated Transport, David Begg, says that “a big road-building programme without road pricing is as ludicrous as giving a heroin addict a last fix”.

Transport pundits pretty much all agree that charging is the way to go. Now even the road lobby has

come round to the view that demand for scarce road space has to be managed. Geoff Dossetter of the Freight Transport Association says: “We think that road pricing in one form or another is inevitable.” John Dawson, policy director of the Automobile Association, stresses that a coherent long-term framework for roads is needed. “The government, at present, is simply muddling through,” he says.

But it isn't organisations the government is really afraid of, it's voters. Since the fuel-tax protest two years ago, when Labour briefly lost its lead in the opinion polls, the fear of a motorists' revolt has become considerable. The political power of the car is nothing new. “What Englishman will give his mind to politics as long as he can afford to keep a motor car?”, asked George Bernard Shaw.

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London's congestion charge

Ken's gamble

Dec 12th 2002
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London's bid to cut congestion faces a testing period

WITH the introduction of London's £5-a-day congestion charge in sight, final trials of the world's most ambitious road-pricing scheme are under way. The first of some 700 cameras guarding the charging zone in the centre of the city have already begun beaming video pictures to a computer database near Spitalfields market. When the system goes live on February 17th, snapshots of the number plates of the 250,000 vehicles entering the zone daily will be matched against a database of those who have paid the £5 fee. Violators will have to pay an £80 fine, reduced by half if paid within two weeks.

Even advocates of road pricing admit that the mayor of London, Ken Livingstone, is engaged in a huge gamble. No one has ever tried to charge motorists in a city of the size and complexity of London. Problems are inevitable, with alarmists predicting anything from total gridlock on the peripheral roads to gross overcrowding on the tube. The mayor, who has staked his political future on the project's success, has said that he will abandon it after two months if it is obviously not working.

Critics say that would be far too short a time-scale, and worry that the charge is being introduced in too much of a rush. Rome, which uses similar licence plate recognition technology to regulate traffic, had a two-month running-in period during which no penalties were levied. “It takes at least six months to tune up the system so that it works satisfactorily,” says the city's transport chief, Maurizio Tomassini.

Derek Turner, the mayor's transport chief, says that the way this charging system works means that it cannot be introduced slowly. But he insists that glitches have been allowed for and that penalty notices will be issued only when there is proof of a violation. “I have got two months to sort it out and I am confident that we can do it,” he says. He claims that the risk of a penalty notice being issued to the wrong person or an illegal driver escaping being fined is “negligible”.

Nobody knows what impact charging will have on London's traffic. The mayor claims that it will reduce traffic in the zone by 15% and reduce traffic delays by about a quarter. But his officials acknowledge that these figures are at best an inspired guess. When Londoners are having to pay £4 an hour to park, a £5 daily charge may not be much of a deterrent; if the charge is raised, drivers may be deterred, but they will also be cross.

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Identity cards

Papers please

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The government is moving towards backing a national identity card

THE British tend to be uncomfortable about the idea of the state keeping tabs on them. Compulsory identity cards, in use during two world wars, were quickly abandoned in peacetime. Seven years ago, a Conservative home secretary, Michael Howard, was forced into a humiliating retreat after failing to convince colleagues that the time and the technology were ripe for another attempt.

Given this history, it is hardly surprising that the current home secretary, David Blunkett, is approaching the issue cautiously. A consultation paper setting out a variety of options was published last July. The consultation process does not end until next month, but one option, a voluntary card, has already been ruled out.

The home secretary is now pressing the case for a universal ID card, using the 80m passports and driving licences now in circulation as the basis for a national register. That would leave only about 16m people, who are neither drivers nor passport holders, who would be required to have what the government likes to call an “entitlement card”. Although everyone would have to have one, there would be no obligation to carry it.

Though recent opinion polls suggest that Britons are not against the idea these days, the prime minister is nervous, and some other members of the cabinet, among them Andrew Smith, the minister for work and pensions, are doubtful. One senior minister described a compulsory national ID card as “a solution in search of a problem”. Mr Blunkett says he is “not prepared to go to the stake”, but he is increasingly confident that this is an argument that he can win with his cabinet colleagues. “The idea that we can succeed with a quill pen approach to identity when this country is being targeted by criminal gangs is absurd,” said one of his officials.

Illegal immigration is one reason why Mr Blunkett is so keen on the idea. Britain is one of the few countries in Western Europe that does not insist on ID cards. This, says Mr Blunkett's people, attracts immigrants: people want to come to Britain, officials maintain, partly because they believe that once they are in the country they can work, and obtain benefits and public services with impunity. Whether it would be any harder to get work without an ID card than it currently is without a (supposedly essential) national insurance number is not clear. But support for ID cards was part of the deal Mr Blunkett did recently with the French interior minister, Nicolas Sarkozy, to close the Sangatte refugee camp, because the French believe that their absence encourages immigrants.

Mr Blunkett's other main claim for a national ID card is that it would help tackle identity fraud, which the Home Office estimates costs £1.3 billion ($2 billion) a year. A recent police investigation found that the identities of more than 1,000 dead babies had been stolen to obtain false passports and other documents. How far ID cards cut fraud depends to a large extent on how secure the technology is. The most sophisticated cards, for example, containing iris or facial recognition information, would cost around £3 billion.

Mr Blunkett is thus likely in the first instance to back the simplest option: a card containing only basic personal information such as appears on the driving licence. That won't appease his critics who will regard any scheme as the thin end of the wedge. But in an age when nine out of ten adults carry some form of plastic in their wallet and more than 135m financial services cards are in circulation, it may prove hard to whip up much hostility to another bit of plastic.

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Extradition

Unwelcome guest

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A fugitive Chechen diplomat goes to ground in London

IT IS flattering that persecuted foreigners hold British justice in high regard. The trouble is, sometimes they turn up to take advantage of it. That is the headache created for the government by Akhmed Zakayev, the envoy-at-large of the rebel leadership in Chechnya.

Like the leader he represents, Mr Zakayev is on the run. His president, Aslan Maskhadov, is hiding in a cave in the Caucasian mountains, hunted, not very effectively, by the Russian army. Mr Zakayev is being hunted round Western Europe by Russia's lawyers, who want him extradited to face terrorism-related charges.

The Kremlin tried and failed to have Mr Zakayev handed over from Denmark, where he was attending a Chechen émigré get-together. He arrived in London last week, backed by an unlikely bunch of supporters. These include Boris Berezovsky, an expatriate Russian tycoon who finances all manner of causes likely to annoy the Kremlin; Vanessa Redgrave, an actress known for her support for revolutionary socialist causes; and Karl von Habsburg, an Austrian who heads a human rights group for unrepresented peoples. Mr Zakayev and his supporters believe that no British court will hand him over to the mercies of Russia's notoriously corrupt and politically biased legal system.

They are probably right. Britain and other western countries do not buy Russia's argument that Mr Zakayev and his colleagues are simply Islamic terrorists. A court hearing on December 11th bailed Mr Zakayev until January 9th.

Although Mr Zakayev, an actor by profession, did fight in Chechnya in 1994-96, Russia has not produced any convincing evidence linking him to recent atrocities, such as the hostage-taking in a Moscow theatre in October. Russia's case is further weakened by the fact that only a year ago, the Kremlin held formal talks with him, in an abortive attempt to end the war.

Nonetheless, the British government is twitchy about Mr Zakayev and the cause he represents. Although he is a moderate and secular figure, other top Chechens have received money and support from radical Islamic groups. Under their rule, Chechnya was terrifyingly lawless.

Britain, like other outsiders, wants a negotiated end to the war. When and if it comes, it will probably involve some role for Mr Zakayev, whether the Kremlin likes it or not. Better, then, to keep him alive.

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Prague

Ferrets abroad

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Exporting British cultural practices to Central Europe

THE British lager lout, like an aggressive bird, has extended his range. No longer is he restricted to Spanish beaches and football stadia. Budget flights priced as low as a few pounds afford him weekends across Europe in search of beer and sex. Indeed, the only unusual thing about Liam Gallagher's recent drunken brawl with police in Munich, which saw the pop singer's front teeth knocked out, was the location: Bavarian beer is too expensive for most British louts.

Much better to head for Prague. There, as www.praguepissup.com, a website dedicated to bringing lads to the Czech capital, points out, “an all nighter costs less than five quid!” and “a night exercising the ferret costs 30 quid!” A slew of companies now bring groups of British men to Prague for a weekend of lap-dancing and pub crawls. The cultural highlight is a brewery tour (Czechs claim to have invented lager). Once on the piss British lads rarely venture into authentic Czech pubs. Most drift, or are corralled, towards new sports bars where they are momentarily pacified by big screens showing English football, beamed in by satellite.

Czech officials privately guess that a quarter of fights in the city centre each weekend involve British men. There is no way of proving that: British men generally beat up each other, and charges are seldom brought. Still, swankier bars are fed up with the scuffles and property damage. Some post signs in their windows warning groups of British men to stay out. The city police have increased their numbers and are improving their language skills to deal with weekend rowdies. The British embassy concedes that budget flights have brought a new type of tourist to Prague, along with a sharp increase in the consular workload: lads visiting brothels often get their passports stolen.

Praguers grumble at the louts and the growing tawdriness of the city centre, not least the neon-lit brothels which have sprung up along Wenceslas square to service the foreign ferret. In public, officials have little alternative but to gloss over the issue. Local tourism has been battered by the summer floods. The last thing the city needs is to project a downmarket image to better-heeled visitors.

The problem is not likely to go away. EasyJet—whose subsidiary, Go, serves Prague—is planning to expand its service to the Czech Republic next year to five flights a day. More louts are sure to follow. What can be done to stop them? Directing would-be-toughs to Prague pubs favoured by local ice hockey players might help. Or the Czechs could follow the British government's lead. It installed an immigration desk at Prague airport last year to keep unwelcome Czechs (read gypsies) from setting foot on British shores. Perhaps the time has come for the Czechs to do the same at British airports.

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The National Health Service

Targetitis

Dec 12th 2002
From The Economist print edition

Why it won't go away

Get article background

IT'S a nasty condition that afflicts the whole of the NHS, from big hospitals to GP surgeries. It led some hospital managers to fiddle their figures and was instrumental in swaying hospital consultants to turn down a new contract offering a big pay increase. The condition? Targetitis: the bane of doctors' lives. But for the Labour government, targets are its sovereign remedy for the NHS, designed to ensure that all the money being poured into the health service improves its performance.

Homerton, a hospital in Hackney, east London, is one of the country's best-performers—awarded the maximum three stars in this year's league tables. So you might expect senior managers there to be full-hearted supporters of the target regime and the indicators used to monitor performance. But John Coakley, the hospital's medical director, sounds a sceptical note: “Most of the performance indicators are quite sensible but there are just too many of them: it takes a huge amount of time to report the information, diverting clinicians away from more pressing clinical tasks.”

Homerton has to report information, at least monthly and often weekly, on around 100 performance indicators. These cover everything from waiting times for treatment to hospital cleanliness, emergency re-admissions to finances, bed occupancy rates to data quality. During the winter months, the hospital can even be required to report daily on politically sensitive indicators such as trolley waits and cancelled operations. Inevitably, something has to give: in the winter months, for example, the senior nurse who is responsible for managing the flow of patients at Homerton into beds often has to drop this vital task in order to compile data needed by NHS bureaucrats.

Dr Coakley is also sceptical about how good a guide the indicators are to the genuine performance of hospitals. The general approach is to compare the scores of individual hospitals with national averages. The snag is that any variation, whether for the good or the bad, can reflect not just the performance of the hospital but also differences in the local patient populations. For example, Homerton, based in one of the country's most deprived areas, has to deal with a lot of premature births and violent and drug-related injuries. These necessarily raise its mortality rates, which are an important indicator used to assess its performance.

However, the biggest flaw in the target regime, according to Dr Coakley, is that priorities are set nationally rather than locally, by hospital managers who know what is needed in their area. For example, there is no national target for the treatment of sickle-cell anaemia because this is not a national priority. The ethnic mix of Hackney's population means, however, that the condition is a pressing local need. But if the hospital put resources into this, it would have less available to ensure that it met other national targets, even if they are not so relevant to Hackney's requirements.

Another example is the treatment of heart conditions. National priorities focus on dealing with clogged arteries through coronary bypass grafts. But the local priority in Hackney, says Dr Coakley, should be the prompt treatment of heart failure and strokes caused by hypertension.

The government believes that its experiment with foundation hospitals—about which it released more details this week—will help to make them more responsive to local needs. Selected next year from a dozen or so of the best-performing hospitals, they will have much tighter links with their local communities. They will enjoy greater freedom to raise money and to run their affairs with less intrusive monitoring from the centre. Yet despite these changes, foundation hospitals will remain subject to the same targets, ratings and inspections that existing hospitals receive. So even if they have to report less

frequently, they will still operate under the same overall target regime.

Labour took a deliberate decision earlier this year to stick with a state-financed health system. This deprived it of the most powerful tool to drive up performance: direct financial pressure from the consumers of health care through, for example, competing social insurance funds. So it has had to stick with the much weaker device of centrally-imposed managerial targets and indicators. The NHS will continue to suffer from chronic targetitis.

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Shopping

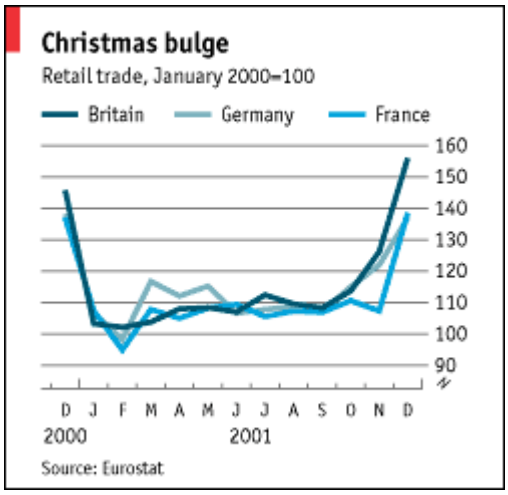
War of nerves

Dec 12th 2002
From The Economist print edition

Christmas shopping is getting harder for the retailers

WHOEVER called it the season of goodwill? Christmas this year is especially stressful for Britain's retailers, who are grappling with shifting shopping habits that bunch sales ever closer to the holiday, leaving no room for mistakes, and straining staff and organisations to the limit.

British Christmases are odd anyway. Gift-giving is traditionally more extravagant than in continental Europe. But unlike America, where the shopping frenzy is divided between Thanksgiving and a brief end-of-year holiday, British consumers go for one big splurge (see chart).



Verdict Research, a consultancy, expects that consumers will buy £70 billion worth of goods in the last quarter of 2002, a 4.1% increase on the same period last year. Of this, a record £31.3 billion will be in December alone.

The new twist is that in each of the past three years, the Christmas rush has started roughly a week later. If the trend continues, jokes Nigel Wreford-Brown, commercial director of John Lewis, the country's largest department store chain, “we will end up doing our shopping at a petrol station on the way home on Christmas Eve.”

There are several suggested causes, ranging from global warming (people no longer fear tramping the streets in mid-December) to the busyness of modern life, leaving people little time to shop. But one big reason is that shoppers are becoming cleverer. They hope that stores will lose their nerve and start discounting some lines before Christmas.

Some shoppers take this even further, separating the giving from the buying. The “January” sales now start ever-earlier—often as soon as Boxing Day. For expensive but sentiment-free items like computers, consumers often promise the gift at Christmas, but buy it afterwards when it is cheaper, notes the British Retail Consortium, a trade body.

That fits two more changes—the growth in recreational shopping, and many employers' habit of closing down for up to two weeks over Christmas and the new year holiday. For the DIY-crazed, the prospect of spending the last week in December buying and then using new gadgets and materials is blissful.

All that makes the next ten days hair-raising for retailers. If the product range is wrong, not much can be done. Shops are crowded, staff stressed, warehouses and delivery systems stretched. “If you get it right it's far and away the most profitable time of the year. If you get it wrong there is no time to recover,” says Mr Wreford-Brown.

The retailers have some clever tricks in response. One is to encourage people to shop early. There is a small (and frighteningly well organised) chunk of the population that actually likes doing Christmas shopping early. Stores make space for goods such as Christmas crackers as early as October. Some also offer special deals that run out in early December.

Another trend is to try to sell more services. For people who feel they have too many possessions cluttering up their lives, a voucher for something enjoyable—a manicure, say, or go-karting—is more

welcome. Boots and WH Smith are both trying this. The advantage is that the money comes in at once, but the take-up is in the less busy time after Christmas.

A third is to shift the costs of the holiday rush onto the suppliers. Good IT and logistics mean that rather than holding large stocks of goods for Christmas, retailers simply order more frequently.

But none of these changes the fundamental point. Customers know they are in a stronger position than the retailers: they can for the most part choose from a swathe of potential presents, while the shops are stuck with the goods they ordered.

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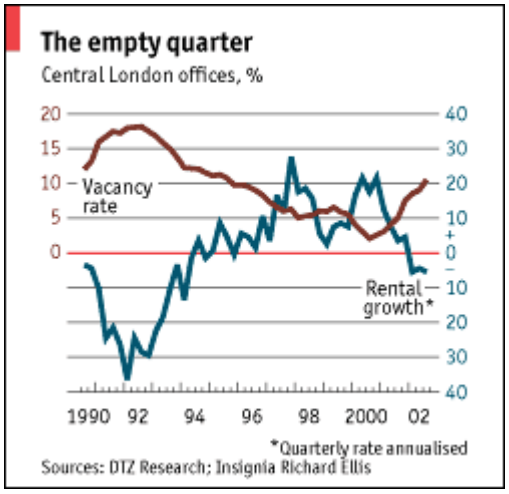
Commercial property

Limping along

Dec 12th 2002
From The Economist print edition

The last downturn hurt property companies. Now it's the tenants' turn

IN THE City, the “erotic gherkin” is rising fast. Designed by Lord Foster, it is a controversial addition to a skyline distinguished by Sir Christopher Wren's masterpiece, St Paul's Cathedral. The building's owners, Swiss Re, may now wish they had not been so determined to win the planning battle. This insurance giant has not been able to let the half of the building that it will not occupy, and, as redundancies continue apace, finding tenants will be hard. In the West End, high-tech media companies are downsizing; in the City, thousands of financial industry workers have been laid off.



Across London, office vacancy rates have risen to above 10% from a low of around 2%. This is still well below the levels seen during the last big property slump in the early 1990s, when a fifth of City office space lay empty. However, it is high enough to be a worry.

Outside London, the south-east, which enjoyed the spillover from London's recent prosperity, is also suffering from its downturn. The Thames Valley, which fancies itself as Britain's telecoms hub, is sharing that industry's pain. In parts of central London and the south-east, rental values have already fallen a fifth from their peak of a year ago.

Many developers, most spectacularly Olympia & York, developers of Canary Wharf in Docklands, went belly-up after the last recession, thanks to a rash of new building. But the industry has learned its lesson, and there is now much less speculative development. Canary Wharf Plc, for example, will put up no more than one building on spec at a time. It is a lack of demand, not excess supply, that is the problem now.

The other big difference this time round is that tenants are hurting more than owners. Canny developers have made companies sign leases on new buildings in advance. That makes them the ones who have to sublet excess space. Lehman Brothers, for example, has commissioned a new London headquarters with 1m square feet in Canary Wharf. It is unlikely to need all that space and analysts say that the company has sublet only 100,000 of the 380,000 sq ft that it currently occupies in Broadgate, in the City.

Despite falling rentals, commercial property capital values are continuing to rise across the country as a whole. This is because of falling interest rates: property yields around one percentage point more than it costs to borrow the money. Banks have been very happy to lend on this sort of return—bank lending on commercial property has been galloping ahead at 20% a year for the past three years. They have tried to insulate themselves from losses by insisting on good tenants and leases that run some three or so years beyond the end of the loan.

Few experts are forecasting a property meltdown, but if there is one, these highly leveraged investors could go bust, leaving their lenders with some ugly bad loans. John Atkins, property analyst at HSBC, a bank, warns: “People say this is not as bad as last time, but that is like comparing today's cold weather to the last ice age: it's true, but it's not relevant.”

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Bagehot

Hounding Cherie

Dec 12th 2002
From The Economist print edition

When the press thinks it's the real opposition it does no good to politics or the papers

LABOUR'S hegemony stretches interminably ahead. The official opposition has all the energy and bite of an overweight and elderly Labrador. But never fear. Though Tory leaders may come and go leaving almost no trace behind them, the *Daily Mail* and its sister paper, the *Mail on Sunday*, are always there, vigilant on the nation's behalf, stern in their defence of Britons' ancient liberties, unflinching in calling to account an over-mighty executive.

This may be a slight exaggeration, but, especially after 12 days of what has inevitably come to be known as “Cheriegate”, it is pretty much how these newspapers see themselves. They look at today's Conservative Party and see only a broken-spirited rabble. They seethe with frustration at the sight of a vile and incompetent government that remains unreasonably popular and electorally impregnable. So into this political vacuum they step, armed with the sense of moral purpose that springs from the certainty that they are now the real opposition.

For nearly a fortnight, even as Britain edges closer to war with Iraq and the government fights to save its spending plans from militant unions and a worsening economy, there has been only one story in town: Cherie Blair's curious relationship with her “lifestyle coach”, the involvement of that woman's boyfriend, a serial fraudster, in Mrs Blair's purchase of two flats, and Mrs Blair's initial unwillingness to give a full and satisfactory account of what she had been up to.

To that extent, it has been a triumph for the Mail newspapers, which got hold of the story and refused to let it go, while Mrs Blair and Downing Street tried first to ignore and then to deny it. Their relentlessness has embarrassed Mrs Blair and made the Downing Street press operation look sloppy and defensive. They have shown her judgment to be poor and the company she keeps to be rum.

The *Daily Mail* would like to think that Mrs Blair, a successful lawyer with political opinions well to the left of her husband's, is a sort of British Hillary Clinton—a chink of vulnerability in her husband's armour. But the parallel doesn't quite work. Mrs Clinton is a heavyweight politician in her own right. Mrs Blair is not. Perhaps the paper believes that by making life hell for Mrs Blair, it is hastening the day when her husband finally hands the keys of Number 10 over to his impatient neighbour. There is at least some warped logic to that calculation: if Cherie does not quite make it as Hillary, Gordon Brown might just turn out to be Britain's Al Gore. But this is clutching at soggy straws: the reality is that the persecution of Mrs Blair, although quite entertaining in a nasty way, is political displacement activity.

Who cares?

The Mail newspapers and their followers, such as the *Daily Telegraph*, are desperate to establish the fact that some major impropriety has occurred—better still that the whole episode illustrates institutionalised mendacity and sleaziness at the heart of the Blair government. But although Mrs Blair's behaviour has been ill-judged, there is no evidence that she has done anything really dreadful. For all the journalistic energy and acres of newsprint that have been expended on this story, its real political impact is almost certain to be close to zero.

In this, Cheriegate echoes the odd affair last summer of the prime minister's supposed attempt to get

himself a more prominent position at the Queen Mother's lying-in-state. That story, too, obsessed the press for a couple of weeks. But despite a huge effort on the part of his antagonists to make Mr Blair appear crass and his immediate circle of advisers a bunch of liars, it is doubtful whether anybody beyond the people who were involved can remember the first thing about it. So it will be on this occasion too. These stories are like violent squalls that come roaring out of nowhere, and pass just as quickly. Nobody is likely to change the way he votes because once upon a time there was a row between a parliamentary office-holder named Black Rod and Downing Street or because Mrs Blair used a dodgy go-between to buy, perfectly legally, a couple of flats in Bristol.

Which doesn't mean that the papers' blood-lust is free from consequences. One obvious impact is on the quality of the press. The *Daily Mail*, a paper which was once remarkable for its flair, has become startlingly boring, with page after page devoted to mad Cherie and her evil entourage. That sort of thing may help explain why Britain's most successful newspaper of the past two decades is now losing readers.

But the more troubling effects are on the nature and quality of opposition. Serious, effective opposition requires a sustained critique of government built around a plausible and coherent set of principles. This is not something that newspapers tend to be much good at. However seriously they like to take themselves intellectually, they are inherently reactive and opportunistic. The *Daily Mail* is brilliantly successful at setting a news agenda; less so at setting the political agenda. That was illustrated at the last election, when the then Conservative Party leader, William Hague, based his programme largely on the preoccupations and prejudices of the *Daily Mail*'s brilliant but rather weird editor, Paul Dacre, and suffered a humiliating defeat. Mr Hague's mistake was to think he could conduct opposition politics as if he was editing a tabloid newspaper.

Whatever Iain Duncan Smith's faults, he does at least seem to realise that the roles are distinct. Although he ultimately joined in with the press pack hounding Mrs Blair, the Conservative Party leader managed to make it clear that it wasn't really his sort of thing. He does not always practise what he preaches, but he does understand that opposition requires patience and a dogged sense of purpose—the very opposite of the qualities needed to sell newspapers.

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OPINION

Innovation's golden goose

Dec 12th 2002
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The reforms that unleashed American innovation in the 1980s, and were emulated widely around the world, are under attack at home

REMEMBER the technological malaise that befell America in the late 1970s? Japan was busy snuffing out Pittsburgh's steel mills, driving Detroit off the road, and beginning its assault on Silicon Valley. Only a decade later, things were very different. Japanese industry was in retreat. An exhausted Soviet empire threw in the towel. Europe sat up and started investing heavily in America. Why the sudden reversal of fortunes? Across America, there had been a flowering of innovation unlike anything seen before.

Possibly the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh-Dole act of 1980. Together with amendments in 1984 and augmentation in 1986, this unlocked all the inventions and discoveries that had been made in laboratories throughout the United States with the help of taxpayers' money. More than anything, this single policy measure helped to reverse America's precipitous slide into industrial irrelevance.

Before Bayh-Dole, the fruits of research supported by government agencies had belonged strictly to the federal government. Nobody could exploit such research without tedious negotiations with the federal agency concerned. Worse, companies found it nigh impossible to acquire exclusive rights to a government-owned patent. And without that, few firms were willing to invest millions more of their own money to turn a raw research idea into a marketable product.

The result was that inventions and discoveries made in American universities, teaching hospitals, national laboratories and non-profit institutions sat in warehouses gathering dust. Of the 28,000 patents that the American government owned in 1980, fewer than 5% had been licensed to industry. Although taxpayers were footing the bill for 60% of all academic research, they were getting hardly anything in return.

The Bayh-Dole act did two big things at a stroke. It transferred ownership of an invention or discovery from the government agency that had helped to pay for it to the academic institution that had carried out the actual research. And it ensured that the researchers involved got a piece of the action.

Overnight, universities across America became hotbeds of innovation, as entrepreneurial professors took their inventions (and graduate students) off campus to set up companies of their own. Since 1980, American universities have witnessed a tenfold increase in the patents they generate, spun off more than 2,200 firms to exploit research done in their labs, created 260,000 jobs in the process, and now contribute $40 billion annually to the American economy. Having seen the results, America's trading partners have been quick to follow suit. Odd, then, that the Bayh-Dole act should now be under such attack in America.

No free lunch

There has always been a fringe that felt it was immoral for the government to privatise the crown jewels of academic research. Why, they ask, should taxpayers be charged for goods based on inventions they have already paid for?

That is easily answered. Invention, as *TQ* has stressed before, is in many ways the easy bit. A dollar's worth of academic invention or discovery requires upwards of $10,000 of private capital to bring to market. Far from getting a free lunch, companies that license ideas from universities wind up paying over 99% of the innovation's final cost.

Then there is the American Bar Association, which has lobbied hard to get the government's “march-in” rights repealed. The government has kept (though rarely used) the right to withdraw a licence if a company fails to commercialise an invention within a reasonable period. This was to prevent companies from licensing academic know-how merely to block rival firms from doing so. The lawyers argue that the government could use its walk-in rights to bully pharmaceutical firms into lowering the price of certain drugs.

Whatever the merits of their case, suffice it to say that the sole purpose of the Bayh-Dole legislation was to provide incentives for academic researchers to exploit their ideas. The culture of competitiveness created in the process explains why America is, once again, pre-eminent in technology. A goose that lays such golden eggs needs nurturing, protecting and even cloning, not plucking for the pot. Readers who agree or disagree can share their own views at www.economist.com/forums/tq.

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MONITOR

Brave new world of farmaceuticals

Dec 12th 2002
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A flood of new medicines will hit the market if producing biopharmaceuticals in animals rather than reaction vessels can be made to work better

HUMANS never tire of hearing tales of heroic animals. Fables abound of people owing their lives to a St Bernard or a horse. In the near future, however, an entirely different breed of creatures could be saving humans in distress. Imagine owing your life to a goat, cow or chicken? Welcome to the brave new world of farmaceuticals. Biotechnology firms are busy trying to turn humble barnyard animals into living bioreactors full of life-saving medicines. Through the process of genetic modification, such animals can be induced to produce large volumes of certain proteins in their milk, eggs or blood. And when purified, such proteins can be used to treat diseases.

Drug makers are especially keen to get their hands on large quantities of compounds known as monoclonal antibodies. These proteins, which act as the footsoldiers of the immune system, recognise and bind to alien objects in the body. Drugs made from antibodies could take aim at bacterial infections, perhaps even cancerous cells, far more accurately than synthetic drugs. Since drug makers can simply isolate antibodies, and the genes that code for them, from the blood and cells of laboratory animals, they can avoid having to design therapeutic molecules entirely from scratch.

For decades, medical researchers have dreamed of making these “silver bullets” into drugs. But even silver bullets must be formed in some sort of foundry. And makers of therapeutic proteins—“biopharmaceuticals”, as they are known—desperately need more foundries if they are to bring them to market in commercial quantities.

A mere ten antibody drugs now absorb nearly all the antibody production facilities in the world. When demand recently exceeded supply for Immunex's new antibody-based drug, Enbrel, the company had to persuade another biotechnology firm, MedImmune, to part with the “production slots” it had reserved at Boehringer Ingelheim, a contract drug manufacturer based in Germany.

The other option—to build a new facility to produce such compounds—would have cost $200m-400m and taken three to five years to complete. Such outlays deter cash-strapped drug makers, especially those requiring only small quantities of a protein to complete a series of clinical trials and win regulatory approval.

If manufacturing biopharmaceuticals in animals could be made more efficient, it would overcome the logjam that has been holding a flood of new therapeutic compounds back. More than a hundred protein-based drugs are now in advanced phases of clinical trials, and many more are in development in the laboratory. The stakes are high, in terms both of lives that might be saved and profits that might be

pocketed. If manufacturing in animals can be made a success, it will bring drug makers and biotech firms billions of dollars in sales over the coming decade.

At present the most advanced technology for biomanufacturing involves goats and cows. At GTC Biotherapeutics in Framingham, Massachusetts, scientists are capitalising on the benefits of natural selection. Over the ages, the mammary glands of goats and cows have evolved to pack proteins into breast milk—so that mother animals can nourish and protect their young. When a goat is genetically modified to carry a gene for a therapeutic protein, the breast cells treat that gene like any other. So far, GTC Biotherapeutics has successfully engineered goats that excrete 14 varieties of therapeutic protein in their milk.

A firm wishing to produce a therapeutic protein in quantity can contract GTC to create transgenic goats that excrete the desired protein in their milk. According to Thomas Newberry of GTC, creating a herd of transgenic goats costs about $100m—expensive, but still only a third the cost of building a protein production facility. Moreover, when a drug maker needs to double production, it simply breeds more animals—thereby avoiding spending $300m on a new factory.

Mr Newberry reckons it takes about 18 months to make a transgenic goat that produces a desired therapeutic protein in its milk. To reach the same point in a cow requires about three years. Once the transgenic mammal has matured, however, increasing the volume of protein production is simply a matter of milking. Goats produce roughly two litres of milk a day, while cows produce about 20 litres a day.

How much the purified protein will cost is uncertain. The traditional method of production for such proteins, which involves culturing large volumes of mammalian-derived cells and extracting their contents, costs about $150 a gram. By using goats and cows, Mr Newberry estimates that his firm may be able to produce raw protein for $1-2 a gram.

Other firms are turning to chickens to achieve the same results. Chickens have some advantages over goats or cows. First, chickens lay eggs which, like Tupperware, are sterile, sealed containers for protecting and storing delicate contents. The albumen, or egg white, is an ideal place to store fragile compounds. Second, chickens are quicker to mature and cheaper to breed than goats or cows. A chicken flock can multiply tenfold within a year. And each additional bird requires only one square foot of extra space in a chicken coop.

Despite the attractive economics, however, research into transgenic chickens is not as advanced as research into goats or cattle. In July 2002, TranXenoGen, an avian transgenics firm based in Shrewsbury, Massachusetts, announced that it had produced two antibodies—one human antibody and one mouse antibody—in the albumens of so-called “chimeric” chickens, which produce the desired protein in some (but not all) their cells. However, the yields of these proteins were quite low. It could be another year or so before TranXenoGen produces fully transgenic chickens with a higher yield of therapeutic protein in their eggs. At present, TranXenoGen is aiming to produce transgenic chickens that make eggs containing insulin and human serum albumen, with an eye on getting regulators to stamp their seal of approval on drugs produced this way.

Many other biotech firms are rushing to turn farm animals into protein factories. Others are trying to do the same with crops such as corn and alfalfa. However, two big hurdles remain. First, the firms have to get regulatory approval for these products. More important, they must soothe public fears about the risks of cross-species infection, such as bovine spongiform encephalitis (“mad cow disease”). But if these obstacles can be surmounted, then some animals in the farmyard of the future will indeed be more equal—and certainly more helpful—than others.

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MONITOR

Through a glass deeply

Dec 12th 2002
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Cheap 3D displays will be coming to a computer near you next year. Unfortunately, little software will be available to take full advantage of their stunning depth of field

Outstanding imagery

SHOWMEN have been trying to make three dimensions from two for centuries. The “stereoptikon”, which appears to depict three-dimensional scenes, was wildly popular at the 1851 Great Exhibition in London. The stereoptikon works by showing a slightly different photograph to each eye, fooling the brain into creating a three-dimensional composite. Engineers at the Japanese-owned Sharp Laboratories of Europe, in Oxford, England, use the same technique in a recently developed 3D liquid-crystal display (LCD).

The trouble with the stereoptikon, and with many contemporary 3D displays, is that they call for special eyewear. Although the coloured glasses of recent vintage are less obtrusive than the microscope-like stereoptikon apparatus, Stephen Bold, managing director of Sharp Laboratories, believes that, for a 3D display to become truly popular, it must work without any glasses at all.

The ploy that Sharp uses is to set up a zebra-like grating, known as a parallax barrier, either just in front of or just behind an ordinary LCD. The opaque stripes on the grating block different pixels for each eye, because the angle from the screen to the left and right eyes differs. The grating itself is fine enough to be imperceptible. Because the grating is made of polarising liquid crystals, it can be turned off, and the screen can switch to displaying two ordinary dimensions. However, for it to work in 3D mode, the observer must be put in just the right place. Otherwise the angles do not line up and a disorienting jumble results. Disorientation has long been a problem with 3D screens; earlier efforts towards a 3D display ran into problems because the illusion was at times too good, inducing nausea. To be on the safe side, the Sharp team has constrained the depth-of-field in their screen to about 15 centimetres, a distance they found optimal.

Though the ideas behind the 3DLCD are not new, implementing them remains tough. On several previous occasions, Sharp had thought itself ready to introduce the 3D display technology—only to find that it could not make the screens accurately enough. To a great extent, the firm has now succeeded, even though the display still works only at the “sweet spot” where the viewing angles coincide. To make this easy to find, Sharp has put a little bar at the bottom of the screen. From most positions, the bar appears red; at the sweet spot, however, it turns black.

Advanced systems that allow multiple users to see 3D effects from arbitrary spots exist but are expensive. One of the newest, a futuristic-looking dome from Actuality Systems, a start-up based in Burlington, Massachusetts, costs $40,000. By contrast, Sharp's 3D screen will cost only 50% more than a conventional 2D screen with comparable resolution, says Dr Bold. That means they could be sold for hundreds, instead of thousands, of dollars. Such pricing would allow Sharp to aim at the consumer market, which is vastly larger than the more limited professional one. The company expects to start shipping consumer models of its 3DLCD early in 2003.

The only catch is that there are, as yet, few consumer applications for 3D displays. The problem is not only that the software has to split the images it wants to display into portions for the left and right eyes, but that the user interface needs to take advantage of all three dimensions. It is telling that one of Sharp's demonstrations is a classic computer game, Quake, which has been modified to run on a 3DLCD.

Dr Bold expects that, at first, game-players will be the biggest users of 3D screens.

Beyond computer games lie serious applications in business software for 3D imaging. Microsoft has expressed interest in adapting its Windows operating system to three dimensions. Dr Bold imagines that the switch from two- to three-dimensional liquid-crystal displays could be even more significant than the wholesale conversion from black-and-white to colour that took the computer industry by storm a decade ago.

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MONITOR

Symphony for local radio

Dec 12th 2002
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Listeners could be receiving AM and FM radio with CD-quality sound sooner than even most broadcasters had expected

SEVERAL months ago, iBiquity Digital was riding high. With no competitors, this two-year-old firm, based in Columbia, Maryland, had a novel technology for replacing traditional AM and FM radio broadcasting with more robust digital signals. The Federal Communications Commission (FCC) in Washington, DC, had officially endorsed iBiquity's terrestrial digital radio format, known as IBOC (in-band on-channel). Although the FCC stopped short of finalising the licensing terms until a later hearing, it agreed to let local radio operators begin broadcasting in the new IBOC format.

It seemed only a matter of time before car owners, equipped with an IBOC radio, would be free to enjoy stunning CD-quality local programming as they cruised America's highways and byways. Meanwhile, radio broadcasters across the country would offer ancillary data (such as promotions for movie and concert tickets, or personalised share-price tickers) by piggybacking the information on the IBOC signal. iBiquity had even started to persuade radio stations to spend tens of thousands of dollars to upgrade their broadcasting equipment for the new digital signals. Then along came Motorola, with a digital-radio chipset called Symphony, to spoil the fun.

Both devices turn crackly analogue broadcasting into pristine digital radio. But the similarities end there. The iBiquity scheme involves a tuner built to receive a digital bitstream from a broadcaster transmitting a signal using the IBOC format. In contrast, the Symphony chipset takes an ordinary analogue AM or FM signal and pumps it through its powerful digital processor to enhance the sound and boost reception significantly. Symphony costs the broadcaster nothing, and consumers next to nothing—and the average listener can barely hear the difference between the two digital forms of AM or FM radio reception.

Symphony has some big advantages. To create CD-quality music, it uses not only hardware (its 24-bit signal processor is similar to those found in home-theatre equipment with fancy surround-sound features) but also a software engine. The built-in software, which lets users upgrade or customise the radio with third-party applications, can generate noise-cancelling signals to eliminate engine hum and other stray sounds. It can also pick up neighbouring stations more accurately than conventional tuners and thus avoid interference. The “spectrum buffer” required by the FCC to stop adjacent stations interfering with each other could be cut in half, says John Hansen of Motorola. That could double the number of possible stations in the AM/FM bands.

Motorola is selling samples of its Symphony chipset to developers for about $30 apiece. Once in volume production, the chipset is expected to cost only a few dollars. The company hopes that products based on Symphony will be on the market by Christmas 2003. Ryan Jones of the Yankee Group, a technology consultancy in Boston, expects Motorola to entice consumers who do not want to wait for iBiquity's digital broadcasting system, or are unwilling to pay monthly subscription fees for digital satellite radio. “But over the longer term,” says Mr Jones, “a pure digital solution offers a number of different advantages—such as higher sound-quality, longer range, and ancillary data features.”

Eventually, digital radio could evolve into an industry which, in shape if not size, resembles the television industry—where broadcast, cable and satellite compete at the margins but otherwise share a lucrative market. Analysts at Allied Business Intelligence of Oyster Bay, New York, believe that sales of digital radios will jump nearly 50-fold to 33m by 2007. Meanwhile, Cahner's In-Stat, a technology forecasting firm with offices in Newton, Massachusetts, expects to see one in every two radios sold in America equipped with a digital decoder within four years. Whatever happens to iBiquity, the days of the squeaky AM/FM tuner are clearly numbered.

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MONITOR

Uncommon protection

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How to license Internet copying

FOR record labels and movie studios, technology's latest promise lies in how it can protect their wares online—in the form of cryptographic envelopes that reveal their contents only to those who have paid for them. A non-profit start-up called Creative Commons is taking the inverse approach: using technology to protect the public domain.

This undertaking, supported largely by a grant from the Centre for the Public Domain, a philanthropic foundation based in Durham, North Carolina, appears doubly unnecessary. For a start, the online world is still a huge free-for-all, given the pervasive swapping of pirated music and movie files. More important, authors, artists and musicians are free to publish their work on the Internet if they want it to be widely copied.

Things are a bit more complicated, says Lawrence Lessig, a law professor at Stanford University, California. With colleagues from other universities, Mr Lessig is a co-founder of Creative Commons. Under American law, explains Mr Lessig, published works are automatically copyrighted, even if there is no copyright notice attached to them—a rule that may be good for creators, but is a barrier for those who would like to share their work online with the public. That means a photographer, for instance, has to attach a special licence to a photo that says it is in the public domain, if he wants others to be able to use it freely. Otherwise, people will be reluctant, for fear of infringing somebody's copyright.

Creative Commons's main objective is to give creators a web-based tool that allows them to write such licences without paying a lawyer. Beyond dedicating a work to the public domain, creators can tailor licences to their needs—specifying, say, that commercial uses are not free. Creative Commons has developed special “tags” in

XML (extensible mark-up language) that allow licences to be described in a machine-readable form, which can then be embedded in the web page containing the work. Using a search service, a web designer could find a specific image that was in the public domain.

Although the service sounds intriguing, it is not clear how many individual creators will bother using it. More likely, it will be popular with universities and other organisations that want to dedicate their works to the public, but prefer not having to write their own licences. Creative Commons is already talking to several of these, such as Rice University, Massachusetts Institute of Technology and the Internet Archive. If it can sign up enough of them, the service could become a standard for defining the intellectual commons online.

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MONITOR

Images from a blurred world

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Wavefront coding produces pin-sharp images of microscopic objects, where the slightest variation in focus creates only a blur

IT IS annoying enough to get family prints back from the developer only to find that many of them are blurred or under-exposed. Imagine how frustrating it must be when the images are of a valuable micro-machine whose intricate structure must be verified in minute detail if it is to enter production. Here, a blurry image can mean the difference between commercial success or failure. This is where a small company based in Boulder, Colorado, called CDM Optics, believes it has a role. By using a novel distorting lens and digital-signal processing, the firm can extract crisp images from situations in which an ordinary lens sees only a blur.

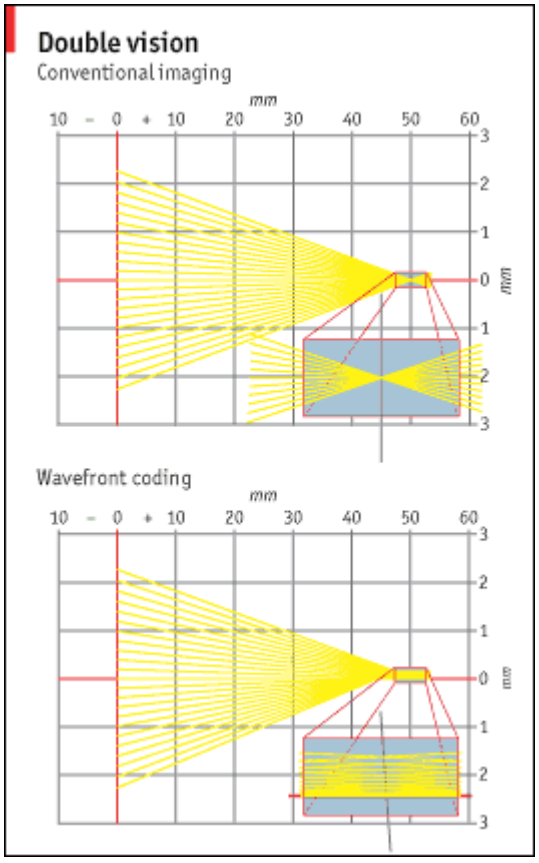
From fuzzy images to pristine pictures

In a conventional optical system, light rays enter through a lens and converge at a point to form an image. This point lies on the so-called “focal plane” of the lens. If, for some reason, some of the convergence points meet in front of, or behind, the focal plane, aspects of the resulting picture will be out of focus. Equally, to get an image with a larger “depth of field”—ie, where more of the distantobjects as well as the nearer ones in a scene are in focus—the photographer must “stop down” the aperture of the lens, restricting the amount of light admitted. But if the aperture is reduced too much, the image may be too dark to be usable.

The Boulder firm has found a way of avoiding both problems. When a light ray enters CDM's imaging system, it passes first through conventional optical elements, and then through a lens moulded into a shape of a cubic-like function (ie, with a surface which, instead of being spherical, is relatively flat in the centre but has scalloped edges). As the light rays pass through this odd-shaped lens, they are distorted. Instead of converging to a point on a focal plane behind the lens, the rays spread out so as to run in a thick stream roughly parallel to each other (see chart). That makes the precise location of the surface where the image is to be formed much less important, because any particular plane at any given location will receive more or less the same pattern of light rays.

The initial image produced by this form of “wavefront coding” is, of course, still blurry. But in this case, the blur is not random but is related to the mathematical shape of the distorting lens—and, as such, it can be systematically removed. As it decodes the image, a digital-signal processor in the wavefront-coding system can subtract the systematic distortion. The resulting image will appear focused, both on near and far objects. Using this technique, it is possible to achieve sharper focus at a given level of illumination than is possible with any ordinary lens system.

One application for wavefront coding may be the burgeoning field of biometrics—the use of a unique piece ofpersonal information, such as a fingerprint, retinal scan or voiceprint, for identification. A conventional biometric imaging-device, used to record a fingerprint typically, has an optimal range of 22 centimetres and a depth of field of one centimetre. If the finger is placed at, say, 12 centimetres from the lens, the imaging system sees only a foggy haze. According to CDM, wavefront coding is so robust that it can produce equally clear images, whether the finger is 12, 22 or 32 centimetres from the lens.



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MONITOR

Unretouched by human hand

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The need to protect photographic images from being tampered with is finally being acknowledged

LIKE the Dutch boy with his finger in the dyke, the entertainment lobby has been vainly trying to stop the torrent of illegally downloaded digital movies and music ever since the demise of Napster and the emergence of other software for swapping video and audio files over the Internet. Copyright schemes for video and music abound—including everything from pay-per-view web video to Celine Dion compact discs that deliberately crash computers. However, there has been far less talk about new tactics to defend digitised photographs and other images from tampering, copying and redistribution.

That could change. A group from the University of Rochester, New York, and Xerox Corporation is quietly perfecting a procedure called “reversible data-hiding”. The technique verifies the integrity and authenticity of digital images, assuring users that they are viewing an untainted original, and notifying the creator if a photograph is misappropriated.

Protecting a digital photograph is trickier than safeguarding a digital video or music file. Both processes involve a programmer embedding encryption, copyright or authentication (“digital watermark”) code somewhere within the binary data that make up the image. Digital video or music files are more straightforward to padlock because of their large size. It requires a hefty amount of data to reproduce a video or a musical score. That makes it easier to add sections of code here and there without corrupting the overall quality of the file. A still image, by contrast, contains fewer bits (ie, binary digits of ones and zeros). With limited space, adding protective measures means sacrificing some of the image data, with a noticeable loss in picture quality. And for many purposes that is unacceptable.

Reversible data-hiding offers a clever solution. The embedding process begins by extracting and compressing some minor details of the image, explains Mehmet Celik of the University of Rochester. This packet of data (usually about four kilobytes of code) is then embedded within the file, and a digital watermark is inserted into the newly created space left behind by the compression process. When authorised users open the file, they see the watermark, which tells them that the image has not been manipulated or corrupted in some irreversible way. Software then automatically removes the watermark, decompresses the “hidden” packet of data, and rebuilds the image to its former specifications.

It sounds like a lot of trouble for one image. But as Mr Celik outlines the possible applications for reversible data-hiding, it becomes obvious why preserving image integrity is so critical. In a courtroom, for instance, a police officer might want to present photographic evidence taken at the crime scene with a digital camera. Usually, there is no way to know whether the images have been altered. With reversible data-hiding, however, photographic evidence could be watermarked and secured from tampering the moment the shutter is pressed.

The process improves on the idea of digital signatures, which require both the creator and the viewer to “unlock” the file with a unique “key”. This may be all but foolproof, but it takes up more room; and the signature could be stripped from the file when the image is opened and saved again. The data-hiding technique neatly fits within the image, and all the authentication tasks are localised, notes Guarav Sharma of Xerox. This does not prevent the image from being edited with software such as Photoshop, but it will tell authorised users whether the image is in its original state or has been retouched.

The United States army has expressed an interest in the data-hiding algorithms for combining extremely high-resolution reconnaissance photographs with authentication security. Eventually, Mr Sharma expects to see Xerox scanners and copiers with data-hiding functions built into them.

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MONITOR

Battle of the blues

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As if there were not enough recordable DVD standards, two new ones, based on the blue laser, offer as big an increase in storage as the DVD did over the CD

Tomorrow's VCR

AS THE DVD (digital video disc) celebrates its seventh birthday, the popular video format that was born out of a clash between two rival technologies—pitting Time Warner and Toshiba against Philips and Sony—is once again poised for a winner-takes-all battle of standards. Reminiscent of the DVD rivalries in the early 1990s, two separate camps are once again vying for technological leadership.

The tussle this time is over which DVD recording standard will prevail. Lined up on one side is a consortium of nine firms, including Sony, Philips, Samsung, Sharp and Thomson Multimedia, that backs a scheme called Blu-Ray. On the other side is a partnership between NEC and Toshiba, with a recording protocol that has yet to be named.

This is not the first time a recordable DVD has been introduced. An alphabet soup of recording technologies—including DVD-R, DVD-RAM, DVD-RW, DVD+RW and DVD+R—has emerged over the past couple of years, each to have its day before being eclipsed by another. But with so many confusing standards, and each offering only a modest 4.7 gigabytes of storage, consumer interest has remained limited.

The difference this time is that the makers have boosted the DVD's storage capacity more than sixfold. By doing this, they can offer enough storage space for a two-hour movie to be recorded in flawless high-definition video, or for more than ten hours of standard TV-quality broadcasting. If the price of the blank discs can be made low enough, Blu-Ray and its rival could at last offer a realistic replacement for the crude but still widely used VCR (video-cassette recorder). And that is a market really worth squabbling over.

The Blu-Ray and NEC/Toshiba systems are based on similar technology. Rather than trying to improve the ubiquitous red laser that drives today's DVD players, engineers in both camps have adopted the recently developed blue-violet laser as a way of packing greater volumes of data on to a single DVD. A red laser pumps out light at a wavelength of 650 nanometres (billionths of a metre); a blue-violet laser operates at a shorter 405 nm. The shorter the wavelength, the smaller the point the laser beam can be focused on. And the smaller the zones in which data can be stored and read back from, the greater the number of bits (ie, binary digits of ones and zeros) that can be crammed on to a disc. The NEC/Toshiba blue-laser disc can hold up to 20 gigabytes of data; the Blu-Ray consortium's stores 27 gigabytes.

The Blu-Ray's proponents believe they can push their disc capacity up to 50 gigabytes—about 10 gigabytes more than the NEC/Toshiba team's maximum projected size. But the NEC/Toshiba design will be “backwardly compatible” with today's DVDs. That could be a significant advantage in the marketplace, saving videophiles from having to replace their film collections, or having to use a second player for older discs. Also, because the NEC/Toshiba design is based on the same 0.6 millimetre substratum as today's DVDs (as opposed to Blu-Ray's 0.1 mm), it should allow consumer-electronics firms and disc producers to use their existing manufacturing plant to make players and blank discs.

Whether the DVD Forum, an industry-wide standards body, will have the clout to get the warring sides to agree on a single standard for a high-definition recordable DVD is a moot point. At the moment, the

omens are not good. Yet even if there is no single blue-laser recording standard, the technology could provide a shot in the arm for the moribund high-definition television (HDTV) protocol.

Both blue-laser formats are capable of streaming data at a blinding 36 megabytes per second (six times faster than data can be read off an ordinary DVD), making them fast enough to paint an HDTV screen in real time. Film buffs looking for the ultimate in picture quality could thus create renewed interest in this much-promised, much-delayed, digital viewing experience.

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MONITOR

A quart into a pint pot

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With its tiny screen, surfing the web with a mobile phone has been maddening. A clever new web browser could change all that

VIEWING web pages on handheld computers and mobile phones, with their small screens, is a fiddly business. First, the web pages themselves take ages to trickle across the airwaves. Then they are subjected to one of two fates. They may be horribly mangled and over-simplified, so that they bear little resemblance to their original design and layout. Or they may be assembled just as their designers intended; but viewing large, complex web pages on a small screen involves a lot of zooming and scrolling. No wonder the industry came up with “wireless application protocol” (WAP), a cut-down version of the web for mobile devices. But mobile-phone users wanted the web proper, not some poor relation, so WAP turned out to be a flop.

Thank goodness, then, for Opera, a Norwegian software firm. It has devised a clever new way to squeeze grown-up web pages on to diminutive devices, such as smartphones, so that they both look good and are easy to navigate. The trick is to reformat the web page in an intelligent way—by working out which parts are important and which not, says Hakon Lie, Opera's chief technology officer.

Some graphics, for example, are mere ornaments, like rounded corners on the edges of tables or boxes. Such parts are not downloaded at all. Others are important, but too big—company logos and newspaper mastheads, for example. These are downloaded, and then scaled down by the browser to fit within the width of the screen. Graphics that are used for navigation can be replaced with their text equivalents. Tables and grids of elements are decomposed and the contents are moved into a single-column layout. The result is a tall, thin page called a “content column”.

There is no single way of doing all this that works well for all web pages or on all devices. But most of the time, Opera's results look surprisingly good. That is largely because the company also makes a desktop browser, not as widely known or used as those made by Microsoft and Netscape, but acclaimed by users for its speed and compactness. The company thus has years of experience in analysing how web pages are designed and coded, which it has been able to exploit in the development of its “small-screen rendering” algorithm.

All the reformatting is done within the browser on the phone, rather than using a “proxy server” sitting on the mobile-phone operator's network to reformat pages before transmitting them to the handset. The advantage of doing everything on the mobile device itself, says Mr Lie, is that it gives the user more control. The final version of the software will probably include a slider to allow the user to choose between faster downloads or better-looking pages.

Support for small-screen rendering will be included in Opera 7.0, the next version of Opera's desktop browser, due out by the end of the year. That will allow web-page designers to see how their pages will look on mobile devices and tune them accordingly. The mobile version of the browser will be available in 2003. So far, it runs on the Symbian operating system used in the latest smartphones, and on Linux, the open-source operating system that is starting to appear in handheld computers.

The browser can be downloaded on to smartphones such as the Nokia 7650 and Sony Ericsson P800. But expecting consumers to install new browsers on their phones is unrealistic. Opera is already the default browser on the Symbian operating system—it ships on Nokia's 9000-series communicators—so the hope is that the new mobile browser will become a standard for Symbian. Opera is also talking to mobile-phone operators and handset makers directly. With luck, its new software will help transform the wireless web from a misnomer into a reality.

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MONITOR

Shaken not stirred

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The merits of passive exercise

WHY is jogging good for you? Part of the answer is the word itself: the regular jogs the body receives while running release beneficial chemicals into the bloodstream. These include nitric oxide, which helps to dilate blood vessels and increase blood flow, reducing the risk of clot formation. But to the delight of couch potatoes everywhere, it seems that the same effect can be achieved by lying down on a mechanised table that shakes the body from head to toe two or three times a second.

A Florida-based medical-equipment developer called Non-Invasive Monitoring Systems (NIMS) has developed a special motion platform to do the shaking. Marvin Sackner, the company's chairman and a doctor with a record of innovation, believes the treatment could deal with ailments as varied as pulmonary hypertension and arthritis. He calls it “acceleration therapeutics”.

The passive exerciser, which sells for $35,000, has been registered with the Food and Drug Administration as a medical device for therapeutic use. It is aimed more at clinics than homes. A typical treatment consists of 35 sessions of 45 minutes each. Improvements reported by patients can last for as long as a year. So far, the only side-effect seems to be a strong urge to urinate while being shaken. In contrast, jogging has a range of harmful side-effects, from damaged joints and jogger's rash to traffic accidents.

Perhaps the greatest advantage of the motion platform is that it can be used by people who are unable to jog. Patients with osteoarthritis of the hip report that the distance they can walk increases several-fold after treatment on the motion platform. This is believed to be due to chemicals that are released by shaking, which are known to reduce the inflammatory substances that cause arthritis.

New applications for the motion platform keep turning up. Jose Adams of the Mount Sinai Medical Centre in Miami Beach, Florida, reckons it can be used to perform cardio-pulmonary resuscitation—by greatly increasing blood flow to the brain during a heart attack. This would appear far less damaging to the patient than the conventional rib-crushing method. If further studies on patients back Dr Adams's findings, motion platforms may one day be integrated into hospital beds and ambulances, and spring into action whenever a monitor attached to a patient detects a heart attack.

Dr Sackner admits these are still early days for acceleration therapeutics. Only a small number of patients have received extensive treatment. And much of the evidence for health improvements is still anecdotal, not statistical. Intriguingly, though, that anecdotal evidence points to increased energy levels after treatment—similar to the invigorating effects of active exercise. Some patients even report a pleasurable equivalent of “jogger's high”, caused by the release of the brain's own pain-killing opiates called endorphins. If the initial results are confirmed by trials under way in a number of medical laboratories around the world, reluctant joggers may at long last wave their running shoes goodbye.

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MONITOR

Dotty idea for telecoms?

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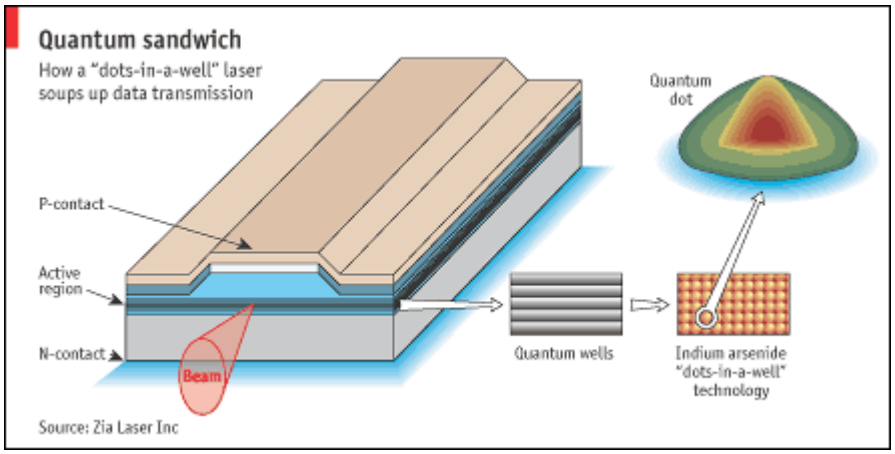
Quantum-dot lasers could have a bright future in optical networks—once the global glut of unused fibre is finally illuminated

A SURFEIT of optical fibre has been laid in networks that span America, criss-cross Europe and connect the main cities in the rest of the world. Over-investment in this under-used infrastructure was a principal cause of the colossal telecoms crash of a couple of years ago. So a small start-up should think twice about specialising in hardware for optical networks, surely?



Zia Laser, a company based in Albuquerque, New Mexico, is undeterred. It has found a novel way to improve the diode lasers that input information into optical networks. These lasers sit at the end of an optical fibre and produce light that is funnelled into the network. The light carries data, such as web pages and phone calls, encoded as variations in brightness. Diode lasers are essential to all forms of optical communication. So build a better laser, reasons Zia Laser, and telecoms carriers will buy it even in these straitened times.

The trick to improving the diode laser is to incorporate “quantum dots”. Long studied by physicists, quantum dots are only now finding their way into products. The quantum-dot laser is one of the first and most promising.

The simplest diode laser is a sandwich of so-called “n-type” and “p-type” semiconductors. The first contain an excess of negatively-charged electrons, whereas the second are short of them—containing “holes” of positive charges left behind when electrons are removed. When a voltage is applied across the sandwich, electrons and holes meet in the middle and annihilate each other, emitting their energy as light. If that is all that happens, the device is a light-emitting diode (LED). To turn it into a laser, the light that is emitted has to be captured so it can stimulate yet more electron-hole annihilations and so amplify itself. When that happens, the light that finally emerges from the device is “coherent”—ie, of a single wavelength.

Today's diode lasers are a good deal more sophisticated than that. For instance, the sandwich of n-type and p-type semiconductors contains a filling of “quantum wells”. These are layers of semiconductor so thin as to be, in effect, two-dimensional, and to fit into the region where the p- and n-type materials meet. Electrons and holes become trapped in the wells. Meanwhile, the light sparked by the annihilation of electrons and holes is also directed through the wells, because of differences in the materials' optical properties. This concentration of charge and light means that quantum-well lasers run on a smaller current and convert electrical energy into light more efficiently.

The performance is further improved by embedding quantum dots, which are tiny islands of a different semiconductor, in the wells. Zia Laser refers to this as DWELL (“dots in a well”) technology. The dots form spontaneously when one semiconductor is deposited on top of another one that has a different atomic spacing. The atoms in the two materials try to line up, but when the strain becomes too much, the top layer deforms and breaks apart into billions of islands. These self-assembled dots trap charge so effectively that the laser's operating current falls dramatically.

This helps to make the lasers resistant to changes in temperature—particularly useful when it comes to installing them in optical networks. Another advantage is that there is a natural distribution in the size and shape of the quantum dots, causing each to emit light at a slightly different wavelength. The sandwich can therefore be tuned to emit light across a whole range of wavelengths. By carefully manipulating the manufacturing process, the dots can be made to emit only in the range of wavelengths that can be sent down optical fibres. Such “tuneable lasers” are used where optical fibres carry up to 80 channels of data, each transmitted at a different wavelength.

This is referred to in the jargon as “dense wave division multiplexing” (DWDM). It is used to cope with heavy data traffic across transatlantic links and other long-haul routes. Ironically, it was the introduction of DWDM, with its enormous capacity-boosting features, that led to the massive increase in unwanted fibre around the world—much of which remains “unlit” to this day.

With that in mind, Zia Laser has developed a fixed-wavelength laser for office networks that uses quantum dots as well as a tuneable gain chip (the core of a tuneable laser) for DWDM links. These products are now being tested by selected customers, and could be on the market within a year or so. For the time being, Zia Laser is ahead of the competition, but others are showing interest. Quantum-dot technology is also being developed by Fujitsu in Japan, the Ioffe Physico-Technical Institute in Russia, and two research consortia in Europe, BIGBAND and DOTCOM. The question is whether the global telecoms industry really needs any further improvement in fibre utilisation. Eventually, demand is bound to materialise. But that could be quite a number of years away.

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DIALOGUE

Gridlock on the superhighway

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By choosing the wrong technology, the new local carriers that piled into the telecoms business after deregulation skewered themselves, and set universal broadband access to the Internet back by years

IN THE previous issue of *The Economist Technology Quarterly*, we asked readers who had suffered the woes of trying to find competitively priced broadband access to the Internet to speak up. Thanks to more competition, deregulation of the telephone network's "last mile"—ie, between the local exchange and the subscriber—was supposed to usher in a plethora of cheap broadband services for those who could not afford the high-speed leased lines used by large companies. After an initial flurry of competition as telecoms newcomers piled into the newly opened local markets in the late 1990s, the outcome has been almost the opposite to that intended.

In many parts of the world, incumbent carriers still have the same sort of stranglehold over local telecoms services as they did before deregulation—allowing them to dictate the pace and price at which they roll out broadband services to subscribers. The result has been broadband gridlock on a monumental scale. In the process, thousands of upstart telecoms firms have gone bust, leaving mountains of debt, a humungous overcapacity in the metropolitan and core parts of the network, and an entire industry in disarray. In America, the telecoms bust of 2000 has wiped out some 500,000 jobs and $2 trillion in (apparent) stockmarket value.

By some reckonings, the massive over-investment at the heart of the global telecoms network spurred by the dotcom mania of the late 1990s was such that, given today's state of affairs, no further investment in core capacity is needed for a decade or more. That is what is crippling suppliers. The recovery of the telecoms industry depends on pushing up demand a bit closer to supply, so that corporate investment in information technology can be fired up again.

Unfortunately, the telecoms recession is being prolonged by a disconnection at the edge of the network, which is preventing the excess capacity at the centre from being mopped up. If local broadband access could be made available at competitive prices (no more than, say, twice what Internet users pay for dial-up connections), millions of small firms and even home offices would rush to plug into those countless miles of optical pipes that were laid hastily beneath the streets and oceans of the world several years ago and have yet to be lit up. But in the absence of adequate competition, that is not going to happen.

To get the discussion going, we suggested that the deregulators had done a miserable job of ensuring that existing carriers complied with market-opening measures; and that the incumbent telephone operators had procrastinated every bit as much as they were expected to do over giving new entrants access to the local loop. But the main source of the problem, we argued, was that most of the newcomers (called "competitive local exchange carriers", or CLECs, in America) had simply failed to do their homework.

In particular, the DSL (digital subscriber line) technology that most of them adopted was singularly inappropriate for the task. Apart from causing interference problems, the "2B1Q" algorithm used in America (and the "4B3T" line code used in Europe) to transmit digital signals along a pair of copper telephone lines stumbles badly over "bridge taps" where the wires get spliced.

Better ways of doing things

We pointed out that there are better alternatives for delivering broadband over the last mile. A line code known as TC-PAM has none of the interference problems and three times the data throughput. Recent

variants of this form of coding (known in the trade as HDSL-2 and g.shdsl) manage the job still better. Many of the big regional carriers use a version of TC-PAM to cut their costs when offering leased lines (so-called T-1 or E-1 services) for corporate customers. Why on earth the CLECs did not do the same is a mystery. Whatever the reason, by adopting the wrong technology, they handed the incumbent telephone companies a legitimate excuse for dragging their feet—and thereby sealed their own fate.

After some noisy disagreement, the prevailing view of our online forum on the topic was that too many of the newcomers were literally that: newcomers, with little real telecoms experience. They not only failed to understand how local telephone networks really function, but made the mistake of believing they could ignore voice and concentrate solely on shipping data. While moving data around may account for more than half of all telecoms traffic, it remains a loss-leader. The only things that make money for telephone carriers are voice services.

In America, a carrier can charge roughly $200 a month for a T-1 data connection to the Internet, noted one reader. If the same bandwidth is sold as 24 voice channels, the carrier collects more than $1,000 a month. “The CLECs were smart enough to pursue small- and medium-sized business customers [residential broadband is a niche market and large companies are more than adequately served], but they weren't smart enough to offer both voice and data; and they weren't smart enough to use the correct line code for boosting the capacity of leased copper lines.”

Some readers believed that the CLECs' choice of technology was not entirely arbitrary. “Part of the reason”, suggested one insider, “was that most of the CLECs were dependent on ‘vendor financing' from the makers of the older line codes—and, as such, were locked into purchases of inferior equipment.”

An intriguing thought. The question now is what to do about the chaos that the CLECs have left behind. To start cleaning up the mess and get broadband deployment back on track, the Federal Communications Commission in Washington, DC, hints at three pragmatic reforms. First, abandon CLECs that simply repackage broadband connections they have bought from local phone companies at wholesale prices. Second, give regional carriers a hefty incentive—eg, by allowing them to buy failing long-distance phone companies, such as WorldCom, or boosting the rates that they are allowed to charge for opening their local lines to competitors—in exchange for beefing up the last mile of their networks so that broadband can be rolled out widely and competitively. And third, to keep the local phone companies honest, let the cable-TV operators sell telephone services.

Will it work? That is a question readers might care to ponder. As one forum poster put it, *The Economist* has tugged at a thread hanging from the coat. “Keep tugging, folks, and you might find that (a) the emperor has no clothes, and (b) he belongs in jail.” Postings, please, to www.economist.com/forums/tq.

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BIOINFORMATICS

The race to computerise biology

Dec 12th 2002
From The Economist print edition

Bioinformatics: In life-sciences establishments around the world, the laboratory rat is giving way to the computer mouse—as computing joins forces with biology to create a bioinformatics market that is expected to be worth nearly $40 billion within three years

FOR centuries, biology has been an empirical field that featured mostly specimens and Petri dishes. Over the past five years, however, computers have changed the discipline—as they have harnessed the data on genetics for the pursuit of cures for disease. Wet lab processes that took weeks to complete are giving way to digital research done *in silico*. Notebooks with jotted comments, measurements and drawings have yielded to terabyte storehouses of genetic and chemical data. And empirical estimates are being replaced by mathematical exactness.

Welcome to the world of bioinformatics—a branch of computing concerned with the acquisition, storage and analysis of biological data. Once an obscure part of computer science, bioinformatics has become a linchpin of biotechnology's progress. In the struggle for speed and agility, bioinformatics offers unparalleled efficiency through mathematical modelling. In the quest for new drugs, it promises new ways to look at biology through data mining. And it is the only practical way of making sense of the ensuing deluge of data.

The changes wrought by computers in biology resemble those in the aircraft and car industries a decade or so ago, after the arrival of powerful software for CAD (computer-aided design) and CFD (computational fluid dynamics). In both industries, engineers embraced the new computational modelling tools as a way of designing products faster, more cheaply and more accurately. In a similar way, biotech firms are now looking to computer modelling, data mining and high-throughput screening to help them discover drugs more efficiently.

In the process, biology—and, more specifically, biopharmacy—has become one of the biggest consumers of computing power, demanding petaflops (thousands of trillions of floating-point operations per second) of supercomputing power, and terabytes (trillions of bytes) of storage. Bioinformatics is actually a spectrum of technologies, covering such things as computer architecture (eg, workstations, servers, supercomputers and the like), storage and data-management systems, knowledge management and collaboration tools, and the life-science equipment needed to handle biological samples. In 2001, sales of such systems amounted to more than $12 billion worldwide, says International Data Corporation, a research firm in Framingham, Massachusetts. By 2006, the bioinformatics market is expected to be worth $38 billion.

The opportunity has not been lost on information technology (IT) companies hurt by the dotcom bust and telecoms meltdown. Starting in 2000, IBM was the first to launch a dedicated life-sciences division. Since then, a host of other IT firms have jumped aboard the bioinformatics bandwagon. Along with IBM, Sun Microsystems has staked a claim on the computing and management part of the business. Firms such as

EMC and Hewlett-Packard have focused on data storage. Agilent, SAP and Siebel provide so-called decision support. Even build-to-order PC makers such as Dell have entered the fray with clusters of cheap machines.

A swarm of small start-up firms has also been drawn in, mostly to supply data, software or services to analyse the new wealth of genetic information. Companies such as Accelrys in San Diego,California, Spotfire in Somerville, Massachusetts, and Xmine in Brisbane, California, are selling software and systems to mine and find hidden relationships buried in data banks. Others such as Open Text of Waterloo, Ontario, and Ipedo in Redwood City, California, have built software that improves communication and knowledge management among different areas of pharmaceutical research. Gene Logic of Gaithersburg, Maryland, has created a business to collect samples and screen their genetic code for proprietary research libraries. And Physiome Sciences of Princeton, New Jersey, is providing computer-based modelling systems that offer an insight into drug targets and disease mechanisms.

Bioinformatics is not for the faint of heart, however. Over the past year, the fortunes of a number of biotechnology firms have faltered, as venture-capital funds have sought alternative investments. Venerable names of biotechnology, including Celera Genomics of Rockville, Maryland, LION Bioscience of Heidelberg, Germany, and others, have found themselves scrambling to change the way they do business. Yet, for all the turbulence in the industry, the bioinformatics juggernaut remains on track, fuelled by new forces changing the pharmaceutical industry.

Gene genie

In retrospect, the marriage of genetics and computers was pre-ordained. After all, biotechnology is based on the genetic building-blocks of life—in short, on nature's huge encyclopedia of information. And hidden in the vast sequences of A (adenine), G (guanosine), C (cytosine) and T (thymine) that spell out the genetic messages—ie, genes—are functions that take an input and yield an output, much as computer programs do. Yet the computerisation of genetics on such a grand scale would not have occurred without the confluence of three things: the invention of DNA microarrays and high-throughput screening; the sequencing of the human genome; and a dramatic increase in computing power.

More commonly known as “gene chips”, microarrays are to the genetic revolution of today what microprocessors were to the computer revolution a quarter of a century ago. They turn the once arduous task of screening genetic information into an automatic routine that exploits the tendency for the molecule that carries the template for making the protein, messenger-ribonucleic acid (m-RNA), to bind to the DNA that produces it. Gene chips contain thousands of probes, each imbued with a different nucleic acid from known (and unknown) genes to bind with m-RNA. The resulting bonds fluoresce under different colours of laser light, showing which genes are present. Microarrays measure the incidence of genes (leading to the gene “sequence”) and their abundance (the “expression”).

“In just a few years, gene chips have gone from experimental novelties to tools of the trade.”

In just a few years, gene chips have gone from experimental novelties to tools of the trade. A single GeneChip from Affymetrix, the leading maker of microarrays based in Santa Clara, California, now has more than 500,000 interrogation points. (For his invention of the gene chip, Affymetrix's Stephen Foder won one of *The Economist*'s Innovation Awards for 2002.) With each successive generation, the number of probes on a gene chip has multiplied as fast as transistors have multiplied on silicon chips. And with each new generation has come added capabilities.

The sequencing of the human genome in late 2000 gave biotechnology the biggest boost in its 30-year history. But although the genome sequence has allowed more intelligent questions to be asked, it has also made biologists painfully aware of how many remain to be answered. The genome project has made biologists appreciate the importance of “single nucleotide polymorphism” (SNP)—minor variations in DNA that define differences among people, predispose a person to disease, and influence a patient's response to a drug. And, with the genetic make-up of humans broadly known, it is now possible (at least in theory) to build microarrays that can target individual SNP variations, as well as making deeper comparisons across the genome—all in the hope of finding the obscure roots of many diseases.

The sequencing has also paved the way for the new and more complex field of proteomics, which aims to understand how long chains of protein molecules fold themselves up into three-dimensional structures. Tracing the few thousandths of a second during which the folding takes place is the biggest technical challenge the computer industry has ever faced—and the ultimate goal of the largest and most powerful

computer ever imagined, IBM's petaflop Blue Gene. The prize may be knowledge of how to fashion molecular keys capable of picking the lock of disease-causing proteins.

The third ingredient—the dramatic rise in computing power—stems from the way that the latest Pentium and PowerPC microprocessors pack the punch of a supercomputer of little more than a decade ago. Thanks to Moore's law (which predicted, with remarkable consistency over the past three decades, that the processing power of microchips will double every 18 months), engineers and scientists now have access to unprecedented computing power on the cheap. With that has come the advent of “grid computing”, in which swarms of lowly PCs, idling between tasks, band together to form a number-crunching mesh equivalent to a powerful supercomputer but at a fraction of the price. Meanwhile, the cost of storing data has continued to fall, and managing it has become easier thanks to high-speed networking and smarter forms of storage.

Banking on failure

Despite such advances, it is the changing fortunes of the drug industry that are pushing biology and computing together. According to the Boston Consulting Group, the average drug now costs $880m to develop and takes almost 15 years to reach the market. With the pipelines of new drugs under development running dry, and patents of many blockbuster drugs expiring, the best hope that drug firms have is to improve the way they discover and develop new products.

Paradoxically, the biggest gains are to be made from failures. Three-quarters of the cost of developing a successful drug goes to paying for all the failed hypotheses and blind alleys pursued along the way. If drug makers can kill an unpromising approach sooner, they can significantly improve their returns. Simple mathematics shows that reducing the number of failures by 5% cuts the cost of discovery by nearly a fifth. By enabling researchers to find out sooner that their hoped-for compound is not working out, bioinformatics can steer them towards more promising candidates. Boston Consulting believes bioinformatics can cut $150m from the cost of developing a new drug and a year off the time taken to bring it to market.

That has made drug companies sit up. Throughout the 1990s, they tended to use bioinformatics to create and cull genetic data. More recently, they have started using it to make sense of it all. Researchers now find themselves swamped with data. Each time it does an experimental run, the average microarray spits out some 50 megabytes of data—all of which has to be stored, managed and made available to researchers. Today, firms such as Millennium Pharmaceuticals of Cambridge, Massachusetts, screen hundreds of thousands of compounds each week, producing terabytes of data annually.

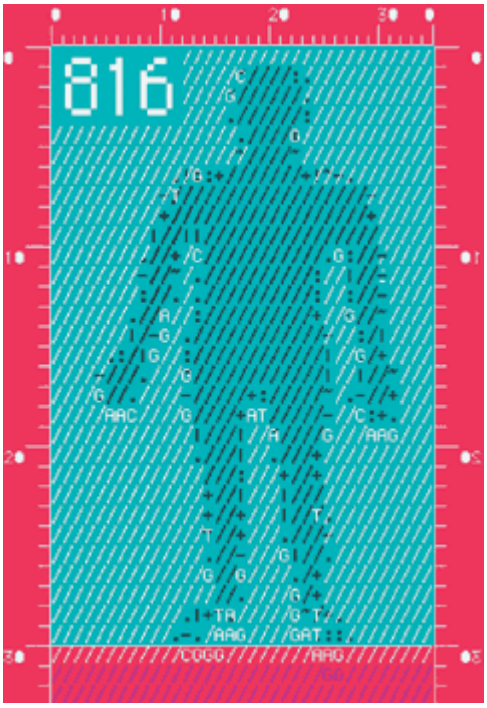
The data themselves pose a number of tricky problems. For one thing, most bioinformatics files are “flat”, meaning they are largely text-based and intended for browsing by eye. Meanwhile, sets of data from different bioinformatics sources are often in different formats, making it harder to integrate and mine them than in other industries, such as engineering or finance, where formal standards for exchanging data exist.

More troubling still, a growing proportion of the data is proving inaccurate or even false. A drug firm culls genomic and chemical data from countless sources, both inside and outside the company. It may have significant control over the data produced in its own laboratories, but little over data garnered from university research and other sources. Like any other piece of experimental equipment, the microarrays themselves have varying degrees of accuracy built into them. “What people are finding is that the tools are getting better but the data itself is no good,” says Peter Loupos of Aventis, a French drug firm based in Strasbourg.

To help solve this problem, drug firms, computer makers and research organisations have organised a standards body called the Interoperable Informatics Infrastructure Consortium. Their Life Science Identifier, released in mid-2002, defines a simple convention for identifying and accessing biological data stored in multiple formats. Meanwhile, the Distributed Annotation System, a standard for describing genome annotation across sources, is gaining popularity. This is making it easier to compare different groups' genome data.

Tools for the job

Such standards will be a big help. One of the most effective tools for probing information for answers is one of the most mundane: data integration. Hence the effort by such firms as IBM, Hewlett-Packard and Accelerys to develop ways of pulling data together from different microarrays and computing platforms, and getting them all to talk fluently to one another. A further impetus for data integration, at least in America, is the Patent and Trademark Office's requirement for filings to be made electronically from 2003 onwards. The Food and Drug Administration is also expected to move to electronic filing for approval of new drugs.



It is in data mining, however, where bioinformatics hopes for its biggest pay-off. First applied in banking, data mining uses a variety of algorithms to sift through storehouses of data in search of “noisy” patterns and relationships among the different silos of information. The promise for bioinformatics is that public genome data, mixed with proprietary sequence data, clinical data from previous drug efforts and other stores of information, could unearth clues about possible candidates for future drugs.

Unlike banking, bioinformatics offers big challenges for data mining because of the greater complexity of the information and processes. This is where modelling and visualisation techniques should come in, to simulate the operations of various biological functions and to predict the effect of stimuli on a cell or organ. Computer modelling allows researchers to test hunches fast, and offers a starting-point for further research using other methods such as X-ray crystallography or spectroscopy. It also means that negative responses come sooner, reducing the time wasted on unworkable target drugs.

Computational models have already yielded several new compounds. BioNumerik of San Antonio, Texas, has modelled the way certain drugs function within the human body. It has also simulated a specific region of a cell to observe the interaction between proteins and DNA. Thanks to its two Cray supercomputers running simulations that combine quantum physics, chemistry and biological models, BioNumerik has been able to get three compounds into clinical trials. Frederick Hausheer, BioNumerik's founder and chief executive, expects his firm's modelling technology to cut the time for discovering new drugs by a third to a half.

In a similar vein, Aventis has used several models of cells and disease mechanisms to discover a number of new compounds. And Physiome Sciences now sells a product that integrates various clinical and genomic data to generate computer-based models of organs, cells and other structures.

For all their power, these computer modelling techniques should be taken with at least a grain or two of salt. Although they allow researchers to tinker with various compounds, they will never replace clinical trials or other traditional methods of drug research. Even monumental bioinformatics efforts, such as the Physiome Project, will only help researchers refine their ideas before getting their hands wet. “If people haven't done this kind of work before, they won't understand how difficult it really is,” says Dr Hausheer.

“A big risk of computer modelling and other tools is to rely too much on them.”

Indeed, a big risk of computer modelling and other information tools is to rely too much on them, says Martin Gerstel, chairman of Compugen, a maker of analytical and interpretation tools based in Jamesburg, New Jersey. Many researchers confuse the data generated by bioinformatics with information. The danger with all the computing power being brought to bear is that it is becoming seductively easy for biologists to rely on the number-crunching potential of computers and to ignore the scientific grind of hypothesis and proof. As the technology of bioinformatics outpaces the science of biology, the science risks becoming a “black box”, the inner workings of which few will be able to comprehend.

To avoid this, biologists need an ever broader set of skills. For instance, the most pervasive impact of information technology on biology has been through wholesale quantification. Suddenly, biologists are being forced to become mathematicians in order to describe the biological processes and models involved. That implies a demand for wholly new sets of skills and educational backgrounds.

Such changes are not unlike those that affected physics and chemistry during the 1940s, when new computational paradigms created the foundations for nuclear energy and the age of plastics. Much as computing made physics more predictable and prolific, many believe that its new alliance with mathematics will make biology more powerful and definitive. But the marriage will experience some turbulent times before achieving the full flowering of its promise.

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SEMICONDUCTORS

Move over, silicon

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From The Economist print edition

Semiconductors: Chip makers are looking for ways to make electronic devices out of cheap plastic instead of pricey silicon. Success could lead to a new market for flexible displays and memories that can be printed on anything—ushering in an age of disposable computing

TO MAKE computing power as seamlessly ubiquitous, and even, perhaps, disposable, as the consumer-electronics industry would like, something fundamental has to happen to the way chips are made. Despite a remarkable reduction in manufacturing costs over recent decades, silicon-based electronics remain too expensive—and will continue to be so for the foreseeable future—ever to be incorporated into items costing less than a couple of dollars. Costs aside, there are practical problems with today's chips. Being made of brittle silicon, they cannot easily be built into items as flexible as, say, clothing. This is where plastic (ie, organic polymer) chips might come in. These promise to be not only flexible but also cheap to make—and capable of working like silicon semiconductors.

Try this with a liquid-crystal display

Until recently, plastics were known more for being insulators than conductors or semiconductors. What changed this was the discovery in the late 1970s that, if the organic polymer was doped chemically, it could be made to act like a metal with dramatically greater electrical conductivity. That simple discovery kick-started research into a whole new technology, based on conducting and semiconducting plastics. The first fruits of this work are about to be harvested.

First to market will be light-emitting polymers (also known as polymer light-emitting diodes). Over the coming decade, LEPs are expected to become a multi-billion-dollar industry. Certain types of LEPs known as “small molecule organics” (which are not strictly polymers) are already appearing in car stereos and mobile telephones.

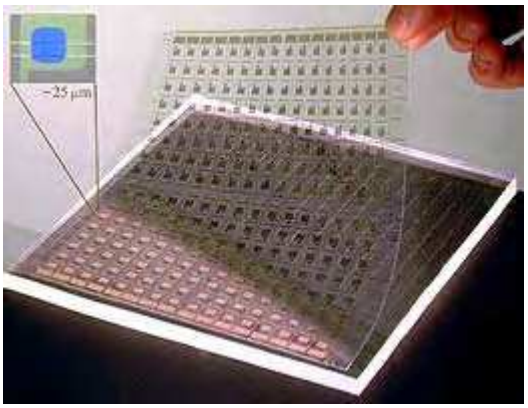
Unlike the liquid crystals used in many of today's flat-panel displays, LEPs are electro-luminescent—ie, their molecules can emit light on their own. The displays are made by applying a thin film of the polymer on to a glass or plastic substrate that has been coated with transparent electrodes. Light is emitted from the polymer when an electric field is applied across the electrodes. Not having to heat up a tungsten filament to create light, LEPs can light up in a fraction of a microsecond—making them, in effect, instant on-off bulbs. Also, because unlike liquid-crystal displays they do not need backlighting, LEPs can be used out-of-doors in daytime as well as at night. As a display, they are lighter and more energy-efficient than liquid crystals or other display technologies. More interesting still, LEPs can be dissolved in a solution and printed on a variety of surfaces, making it possible to turn an entire wall into a screen.

Initially, LEPs will compete in niche markets such as alphanumeric and dot-matrix displays. Even so, Cambridge Display Technology of Cambridge, England, is out to knock the conventional liquid-crystal display off its pedestal. In 2000, along with Seiko Epson of Japan, the company demonstrated a 2.8-inch LEP display that was less than a tenth of an inch thick. The display, with 100 pixels per inch, was made using ink-jet printing techniques. Drops of red, blue and green LEP material were sprayed on to the substrate to allow the various colours in the image that was being displayed to be flipped on and off as required.

LEP there be light

Cambridge Display hopes to be producing small, full-colour displays in volume by 2003, at a new development centre it has set up nearby. Kevin Yallup, the centre's manager, expects revenue to come from licensing the technology and joint-ventures. One such joint-venture, called Polyink, is with Seiko Epson and is aimed at developing an inkjet printer for making displays. Independently, Philips Research, based in the Dutch city of Eindhoven, is also developing inkjet-printing technology for LEPs.

Because they are robust, LEPs are ideal for flexible displays. The problem with flexible displays is not so much the screen but the drive electronics that switch the individual polymer pixels on and off. Being made of silicon, the transistors in the drive circuitry tend to be rigid, fragile and to operate at temperatures high enough to melt the plastic display. Ideally, the drive circuitry should be made of plastic. Hence the widespread interest in developing organic thin-film transistors.



Stamped out by the million

Plastic circuitry promises as large a market as light-emitting polymers, but the technology is taking longer to commercialise. Even so, its biggest application is expected to come from printing plastic chips on consumer items such as T-shirts, drink cans and food cartons for displaying health messages or providing sales and restocking data.

Plastic Logic, also located in Cambridge, England, is developing display drivers using plastic circuitry. The polymers used can be dissolved in water to form an ink, which can be sprayed on the product. The first layer printed is a conducting polymer, which creates the transistor's “source” and “drain” electrodes. The second layer is composed of a semiconducting polymer. In the final layer, an insulating polymer and a transistor “gate” are laid down. Although polymer transistors operate at only a small fraction of the speed of the crystalline silicon transistors used in microprocessors such as Intel's Pentium, they are fast enough to replace the amorphous (ie, non-crystalline) silicon transistors used in the “active matrix” form of liquid-crystal display.

As with LEPs, inkjet-printed circuitry has advantages of cost, weight, robustness and flexibility, as well as the ability to cover large areas. Plastic Logic's first commercial application is likely to be as backplanes for liquid-crystal displays or electronic paper. A second might be radio-frequency identification tags (“smart labels”). In both cases, silicon chips are too rigid and expensive to be practical. The company, which hopes to market the technology in partnership with display makers, expects to be shipping products by 2004.

Meanwhile, E-Ink, based in Cambridge, Massachusetts, is attempting to create flexible, paper-like displays using inks that are electronically addressable. The main advantage for flexible displays of electronic inks over LEPs is that the inks have a “bistable” molecular structure that allows them to store their information without a power supply. This feature, plus the ink's high contrast ratio, provides a display that can offer a truly paper-like reading experience. Again, however, the technology needs a flexible backing to drive it. With technology from Bell Laboratories in Murray Hill, New Jersey, E-Ink recently demonstrated a prototype of a flexible page display that was driven by plastic transistors.

Work at Bell Labs has also shown that, besides printing and spraying, flexible circuits can be stamped continuously on to rolls of plastic. John Rogers, head of nanotechnology research at Bell Labs, reckons that the stamping approach will provide much higher resolution than is possible with inkjet printing. This should translate directly into higher electrical performance from the transistors. But Hewlett-Packard, which is also making a big effort in plastic electronics using inkjet techniques, argues that the advantage of printing over stamping is that it makes it possible to produce customised circuitry more quickly and easily, with changes in design being incorporated instantly.

Floppy memories

A polymer's molecular structure can be altered by applying an electric field, causing changes in the material's conductivity at any given spot. This can then be read as either a one or a zero in binary arithmetic. The implication is that, besides being cheap to produce, plastic memory can store data even when power to the device is turned off.

Several chip makers are out to make polymer memories with large storage capacities. Intel is

collaborating with Thin Film Electronics of Linköping, Sweden. Advanced Micro Devices of Sunnyvale, California, is working with Coatue of Woburn, Massachusetts. Hewlett-Packard is developing a polymer memory that can be made in long sheets capable of providing permanent, high-capacity archives for digital cameras, personal digital assistants and mobile phones.

Early in 2002, Hewlett-Packard announced that it had created an electronically switchable memory device using clusters of molecules known as “rotaxanes”. Although these are not organic materials, they are polymers. The demonstration device contained only 64 bits. But if scaled up, a square centimetre of such material could store a staggering 6.4 gigabits of information. Furthermore, the components of this rudimentary circuitry had been stamped cheaply on to the chip. Although probably five years away from commercialisation, this kind of cheap, non-volatile technology could be a handy replacement for the “flash” memory used in digital cameras.

“If scaled up, a square centimetre of such material could store a staggering 6.4 gigabits.”

A long way to go

It is still early days for organic electronics. Plastic transistors have nothing like the switching speed of those made from crystalline silicon—and will probably never have. That is because polymers that can conduct (or at least semiconduct) have electrons that become part of the molecular orbit of the entire polymer chain, rather than simply the orbit of the individual molecules. That means the energy required to pull electrons free—and so allow conducting to happen—depends on the shape and structure of the polymer. Unfortunately, polymers tend to vary in chain length and composition.

Although plastic transistors and diodes seem to have a promising future in displays, they are unlikely to replace silicon devices at the high end of performance. Their most useful role will be in throwaway products or in hybrids that take advantage of robustness and flexibility of plastic circuitry. For instance, Rolltronics of Menlo Park, California, is working on a cheap roll-to-roll printing process that deposits amorphous silicon transistors on to a continuous sheet of flexible polymer. Meanwhile, IBM is developing transistors from hybrid organic and inorganic materials. These and other firms, such as Lucent and Plastic Logic, are pursuing the large market for hybrid backing electronics used for flexible displays.

Already talk in labs around the world is of “polymer nanoelectronics” and “plastic spintronics”. But any thought of silicon's demise is premature. What is not is the fact that, henceforth, silicon will have to share its dominance of the semiconductor world with a remarkable range of upstart materials based on polymers. Welcome to the era of organic chips.

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CASE HISTORY

Trapeze artists

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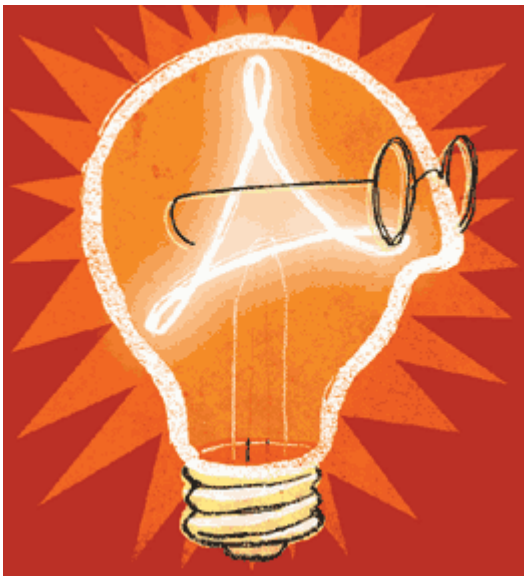
Intelligent design and clever marketing have made Adobe the king of online documents. But mistakes made along the way were just as important



THE list of dead, dying and half-forgotten programs for the personal computer is not short: WordPerfect, Lotus 1-2-3, Netscape, Eudora—to take just the tip of the iceberg. Each once dominated its bit of the market, and each has since been supplanted by a Microsoft product: Word, Excel, Internet Explorer and Outlook. Indeed, popular PC software that does not come from Microsoft is now the exception rather than the rule. That has left Adobe Systems—buoyed by a single product, Acrobat, and its associated Portable Document Format (PDF)—as the second-biggest PC-software company in the world, with sales of $1.2 billion in 2001.

PDF is a way of representing documents electronically; Acrobat is Adobe's program for manipulating PDF documents. There are many ways to represent documents electronically—everything from plain text and scanned images to Microsoft Word documents. Plain text, though portable, is not all that useful, and other formats require specific software to make them readable. So does a PDF document. But nearly everybody has Acrobat Reader, the freely distributed program for reading PDFs, on their computers already. This is the secret of Adobe's continued success. But how did it come about?

Mysterious ways

Adobe was founded in 1982 by John Warnock and Chuck Geschke, two refugees from Xerox's fabled Palo Alto Research Centre in Silicon Valley. Xerox PARC is famous for having generated many of the seminal ideas behind modern computing (graphically based operating systems, for example), and then failing to commercialise them. The problem that Mr Warnock and Mr Geschke set out to solve was how to print consistently attractive documents. Their solution was a programming language, Interpress, that would control communication between a computer and a printer. So long as the printer was appropriately equipped, it would implement the programmer's desires precisely. Frustrated by Xerox's sluggishness in commercialising the technology, Messrs Warnock and Geschke set off on their own, taking Interpress with them to their new company, where it became known as PostScript.

PostScript could be used to describe both graphics and meticulously crafted fonts that Adobe initially adapted from commercial type-makers, and later designed from scratch. The quality of PostScript documents was such that, during the 1980s, it became the standard for professional image-setters, and was also used in most laser printers. At the same time, software to display PostScript on computer screens became freely available and widely distributed (at least among users of Unix-based computers).

By the early 1990s, Adobe already had a reliable, popular document format that was bringing in a steady profit. However, although PostScript was good at some things, such as printing clearly, it was next to useless for others. Because PostScript is a programming language, a PostScript document is essentially a program. To see what is on page 326 of a long document, you have to run the entire program until it gets to that page. That is hardly the way to search for something you want in a hurry. Furthermore, PostScript files are big, both because they contain detailed low-level information, and because each file

includes whatever fonts are used in it.

PostScript was not ideal as a medium for content distribution; and it was not, even in 1991, the only format available. In the 1980s, TeX (pronounced “tech”), a type-setting language written by Donald Knuth, now an emeritus professor at Stanford, had taken many scientists by storm. TeX could encode complicated documents replete with elaborate mathematical formulae—a good worst-case scenario test—in what was, to scientists at least, a simple fashion. TeX is a very elegant format, and continues to be a standard for document creation among physicists and computer scientists. When it comes to exchanging finished TeX documents, however, PDF is now habitually used in preference to the DVI (device independent) output format that was originally part of TeX.

The lessons to be learned from this are twofold. First, because TeX did not have software for document creation that was intelligible to the lay computer user, it failed to catch on outside the scientific world. Second, because PDF is both more pliant and more stable than other formats (such as DVI), it has become a “destination format”. Even if documents are produced in another way, (eg, TeX or Microsoft Word), when it comes to distributing them people turn to PDF.

Mr Warnock saw the limitations of PostScript and its existing competition in 1991, and outlined a project called “Camelot”. Two years later, PDF emerged. This was a time when the World Wide Web was beginning to become popular. The web had its own language, which was evolving haphazardly from the draft of the HyperText Mark-Up Language (HTML) by its inventor, Tim Berners-Lee, at the European Centre for Nuclear Research outside Geneva. If HTML and its various offspring became the blue jeans of the web, PDF was the tuxedo—the clothing documents were dressed in when they needed to look immaculate.

False start

When Mr Warnock conceived Camelot he, like everybody else, grossly underestimated the subsequent growth of the Internet. The “new media” that most expected at the time to succeed was the CD-ROM, which Mr Warnock intended to use to distribute books in PDF. Distributing books electronically was an idea that Adobe would return to—rather unsuccessfully—in the late 1990s. The rise of the Internet in the intervening decade would require Adobe, and every other software manufacturer, to revise dramatically their notions of how to make money from computer programs. To be profitable, it became clear that somebody would have to give something away.

With the explosive growth of the Internet, others followed in Mr Warnock's footsteps. On the proverbial information superhighway, people were looking to exchange visually rich documents; and they needed to be sure that what was received at the other end was consistent. A number of now forgotten start-up firms threw their hats in the ring. No Hands Software had a format called Digital Paper. Tumbleweed was slightly more successful with its Envoy format; it was subsequently bought by Novell, a rival software company.

More significantly, Microsoft also entered the fray. However, its Rich TextFormat (RTF) never had the same functionality as Adobe's product, being essentially a pared-down version of the format used by Microsoft Word. Microsoft also entered the market late. In 1995, Bill Gates, the company's chairman, noted that Microsoft really had no effective rival to Acrobat—and it still hasn't.

Coming first to market certainly has advantages. If you are not Microsoft, it is generally a necessary, though not sufficient, condition for success. The key, however, came not with the introduction of Acrobat in 1993, but with the decision in 1994 to separate Acrobat Reader from the full version of Acrobat—and to give it away. Acrobat Reader can read and print PDFs, but not produce or edit them.

“The key was to separate Acrobat Reader from the full version of Acrobat—and to give it away.”

Many companies that came and went in the dotcom boom of the late 1990s tried to make money by giving things away, only to fail miserably. Adobe succeeded for several reasons. The experience of PostScript proved invaluable. It allowed Adobe to produce a product that was superior in all respects: it looked good, was truly portable across different systems, and had a compact file size that made transferring files quick and easy. With PostScript, Adobe had learnt how to strike a balance between charging for software and giving it away. The full version of Acrobat still costs several hundred dollars; enough people buy it to justify giving the reader away. Adobe also turned out to be in the right place at the right time, catching the wave of the web before it crested.

Running to stand still

The legions of fallen software giants—from Netscape to WordPerfect—show that market share alone is not enough to maintain dominance. Even something as seemingly mundane as format must be continuously modified if it is to remain in the ascendant. With that in mind, Adobe has tried to take PDF in several new directions, with varying degrees of success.

The first was to use PDF as a foundation for its “eBook” initiative. This aimed at allowing PDFs to be transmitted from computers to PDAs (personal digital assistants, such as the Palm or Blackberry) as well as to dedicated e-book reading devices. Furthermore, Adobe's Content Server, a software package, was to be used to encrypt the files in order to prevent copyright infringement.

The exercise was a flop. To begin with, dedicated e-book readers failed to take off because they were bulky, expensive and inconvenient. On top of this, Adobe's copy-protection scheme was flimsy, and easily defeated with the help of a piece of software written by a Russian programmer named Dimitri Sklyarov. Anxious to persuade publishers that eBook was a secure format, Adobe prosecuted Mr Sklyarov under the Digital Millennium Copyright Act when he visited America to attend a conference. Faced with a public outcry, Adobe hastily dropped the case—but not before alienating many programmers, while doing nothing to make the eBook format more secure.

If there is a lesson to be learnt from Adobe's eBook fiasco, it is that litigation is no substitute for well-designed software. If its content-server encryption scheme had been stronger, the firm would never have had the public relations disaster in the first place. When flexible displays are cheaper and better, electronic books may become as ubiquitous as paperbacks. But that could be years away. In the meantime, Adobe is looking elsewhere.

After the invention of PostScript, Adobe's biggest software products were Illustrator and Photoshop, programs respectively for drawing and manipulating photographs. Each proved highly successful in its time and, combined with Acrobat, established Adobe as a company catering for graphic designers and publishers. To keep its graphics products evolving, Adobe has prudently made Acrobat modular, leaving such things as pre-press processing and high-quality colour separation for book publishers to independent software developers, who create PDF extensions that can be plugged into Acrobat to do additional tasks. This group of plug-in writers is centred around two websites, PlanetPDF and PDFzone.

Here is another key to PDF's continued success. By providing free programming tools such as SDKs (software development kits) and APIs (application programming interfaces), Adobe has fostered a group of outside developers who have a vested interest in making sure that PDF remains the dominant format. And by selling them support, Adobe also gets another revenue stream. Meanwhile, offloading the task of producing Acrobat enhancements to independent developers allows Adobe to focus more of its efforts on the increasingly important “enterprise market”.

Adobe believes that the paperless office—believed to be just around the corner ever since PCs first started appearing on people's desks in the early 1980s—is finally about to arrive. Their claim is not so much that paper will disappear overnight, but that it will be increasingly marginalised by the proliferation of slicker, more efficient alternatives. The goal is to have software that will allow users to create a document only once, and then seamlessly distribute it many times. A document for the web may have rich audio-visual content, but be automatically pared down for display on a wireless unit, and presented differently again if it is occasionally printed on paper.

Whether the firm is right or not, Acrobat sits at the centre of Adobe's new “Network Publishing” initiative. By integrating the powerful new tool for specifying web content known as XML (eXtensible Mark-up Language) into PDF, documents can be made smart enough to have some understanding of their meaning. In the process, Adobe hopes to break down the distinction between documents and databases. The trick is to embed, within a document, information about its content and structure in a standardised manner that is easily interpreted by a computer program such as a search engine.

Thus, the creation of a large number of documents (eg, billing letters) from a database can be automated. By the same token, so can the opposite: the creation of a database from a large number of disparate documents. Allied to this, Adobe aims to provide “workflow solutions” that would make it easier for large teams of people collaborating on a project to create mega-documents—eg, the specifications for a jumbo jet—by allowing them to interact in an intuitive way.

How all this will be done is not clear. What is clear, however, is that Microsoft is aiming to do the same with its XDOCS format, which it hopes to introduce some time in 2003. It looks as though the perennial chimera of the paperless office could actually become the software battleground of the future. And if the past is any guide, Microsoft could once again find itself reeling from going head-to-head with Adobe on its own turf.

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TELECOMS

The power of voice

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Telecoms: Despite telecoms' current woes, innovation has not stopped. Ironically, it could be developments in telephone services—dismissed by broadband newcomers as a loss-leader—that revitalises the struggling industry

IT WAS arguably the greatest misallocation of capital in recent history. In the late 1990s, telecoms firms spent billions building new data networks, believing that Internet traffic would double every 100 days for the foreseeable future—a collective misjudgment that caused the telecoms meltdown, with many carriers and equipment vendors now bankrupt and others scrambling for cover.

Yet innovation in telecoms has not stopped. And it may be telephone services that help struggling telecoms firms to claw their way out of their slump. This time, however, the voice applications that are attracting attention are radically different from those that data networkers dismissed a few years ago. They could even revolutionise telephony in much the same way that the graphical World Wide Web turned the dreary old text-based Internet into the all-singing-and-dancing multimedia show that it is today.

In the long run, more business will be done using voice applications than the much-hyped e-commerce, predicts John Giannandrea, chief technology officer of TellMe, a small start-up firm based in Silicon Valley. There are many more telephones than web-enabled computers. And, despite the growth in e-commerce, consumers still spend far more ordering things via the telephone than online.

Today's voice applications are rather simple. Services such as voice dialling, getting traffic information or checking account balances understand only a limited set of words, so they can interact with users in real-time. In the years to come, these offerings will allow natural-language (ie, conversational) input that is not constrained by a pre-defined grammar and vocabulary. The ultimate ambition is to be able to perform “multi-modal browsing”: a mixture of speech, text, video and graphics. Callers could say “Show me the weather forecast”, and get the information on their telephone's display.

“This time, the voice applications are radically different from those dismissed a few years ago.”

A glimpse of what lies ahead can be seen in how airlines and banks are automating their customer calls. But the technologies they use—known in the trade as “touch-tone” and “interactive voice response” (IVR)—are inherently limited. This is not just because callers are restricted to pushing buttons or using only certain words or numbers. What has really hobbled progress is that the systems are

proprietary and incompatible with competing products. That tends to make them expensive, hard to program and, worst of all, not very smart.

Using such systems can be disconcerting. Callers must listen carefully to lists of choices and work through branch after branch of various decision trees, with few options for back-tracking when sent in the wrong direction. And should a human operator actually come on, the chances are that the caller will be asked for a customer ID number and other information that has already been punched into the system via touch-tone telephone.

If things are improving, that is thanks largely to better speech recognition, which is now good enough to understand almost any speaker, even over a phone with background noise. This has been made possible by increases in processing power—which have made computationally intensive speech-recognition quicker and cheaper.

The real impetus behind better voice applications, however, is the recent agreement on an industry-wide standard. Beginning in 1999, and pushed by such leading telecoms firms as AT&T, IBM, Lucent and Motorola, the industry has come up with a lingua franca for voice applications called VoiceXML (short for Voice eXtensible Mark-up Language). Hundreds of firms now support this standard and form one of the most active working groups within the World Wide Web Consortium (W3C), an Internet standards body. A group backed by Microsoft released a draft in early 2002 for a standard called Speech Application Language Tags (SALT), apparently because it felt VoiceXML could not be extended to services that mixed different kinds of media. But in August, the group submitted its specifications to the W3C. The competing camps are now hammering out an improved open standard.

With the web showing the way, voice-applications firms have learned to love open standards. The first open standard developed by W3C, the Hypertext Mark-up Language (HTML), allowed even neophytes to design web pages because its “tags” were easy to understand and nobody had to worry about the software and hardware used to display them. But the parallels between HTML and VoiceXML do not end there. Both are text-based mark-up languages—that is, sets of simple tags that describe, in one case, the layout of a web page and, in the other, the conversation flow of a voice application. A string of characters such as “Welcome” tells a computer to display the word “Welcome” in a particular type font; “<audio>Welcome</audio>” would trigger it to say the word “Welcome”.

There is, however, one big difference between websites and voice applications. The first are displayed by a piece of software called a browser that resides in a personal computer or other device. The second are executed by a specialised computer in the telephone network, running speech-recognition and text-to-speech software. Once a call comes in, this “voice browser” asks for VoiceXML files from a web server over the Internet.

This integration of telephone network and Internet is another key feature of VoiceXML. Instead of building a separate computer system for voice applications, firms can use their existing web infrastructure to power them. This, in turn, makes it easier to change those services—even to personalise them using data from other programs, such as customer relationship management software.

Cheaper by far

The chances are that consumers are going to meet lots of similar services. Getting machines to deal with customer calls is much cheaper than running call-centres with their banks of telephone operators. A call answered by a live operator costs between $5 and $20, compared with $0.20 and $1 per call for a voice application. And such savings add up quickly. In September 2001, AT&T, America's leading long-distance telephone carrier, turned its directory assistance for toll-free numbers into a VoiceXML service that allows users to find a company's free 800-number simply by saying its name. Since then, the share of automated calls has increased from 8% to 55%, saving AT&T an estimated $20m annually.

Even more valuable than lower cost, however, is greater customer satisfaction. If customers have a good experience with these new voice applications, and their questions are answered quickly, they are much more likely to deal with them than with a live operator, argues Hossein Eslambolchi, AT&T's chief technology officer. Satisfaction with AT&T's directory assistance for toll-free numbers has risen by more than a third.

With so much to offer, it is no surprise to find a shoal of start-ups. Some provide speech-recognition engines; others specialise in tools for developing voice applications; still others sell systems to run these

services. The most interesting newcomers are companies known as “voice application networks” such as BeVocal, HeyAnita and TellMe.

TellMe is in a league of its own. Despite the telecoms recession, the company has raised $238m from top-notch venture-capital firms such as Benchmark Capital and Kleiner Perkins. Like many competitors, it launched a voice portal in 1999 for consumers to find information about airlines, movies and restaurants. But despite their popularity, voice portals had a hard time attracting enough sponsors to make a profit even before the dotcom crash.

Today, TellMe builds voice applications for corporate clients, charging firms for every minute the application is used. TellMe and its competitors write the software for voice applications and run voice browsers on servers that are as reliable as telephone switches and can handle millions of calls a day.

Keeping the servers running is the easy part. Creating a good voice interface is harder. This is because, when it comes to user-friendliness, the telephone is less forgiving than the web. People get annoyed if the voice sounds like a robot. They quickly forget what they have just heard and need to be carefully guided through available options. That makes building a voice interface complex. An application needs to be carefully planned and a prototype built for testing and re-testing. A great deal of attention must be paid to such features as the personality of the voice (a teenager welcoming you to a bank might not inspire confidence). Thousands of calls must be transcribed by hand to pinpoint problems in the script. The greatest challenge is to make voice applications sound natural. That means stringing together bits of pre-recorded words with the correct inflection—a technique called “concatenative speech”.

In many ways, a voice-application network is a cross between a recording studio, a telecoms-service provider and a software firm. Mike McCue, one of TellMe's founders, reckons that the more voice applications his firm builds, the more experience, user data and pre-recorded audio it gathers—which, in turn, makes it more attractive to other customers. TellMe has collected an impressive library of audio prompts that Alexander Graham Bell would be proud of. The library includes 16,000 first names, 190,000 street names and 8,300 numbers.

Even so, there is unlikely to be an 800-pound gorilla of voice applications. That is because more basic offerings will be built by machines. AT&T Labs has come up with development tools that mine recordings of calls, to analyse what questions people ask, for instance. Without such speech-mining, says Mr Eslambolchi, it would take too much time to develop the hundreds of thousands of voice applications that will exist one day.

Equally important, voice applications are national, even regional, says Paul Barnes, sales director of Fluency, a British voice-application firm. A script that is easily understood by Americans could be confusing for Britons. The English might not understand a Scottish voice.

The need to match voices to locales has led many to expect a cottage industry of designers to spring up—much as it did for websites. One day consumers may get the simple tools to write their personal voice applications, like do-it-yourself web pages. Then you could program your phone to tell telemarketers to go away. Or you could use it to filter important calls for your attention.

Bearing in mind what a gold mine “texting” (short text messages) has proved for mobile-phone operators, personal voice applications have a good chance of becoming the “killer application” for the next generation of communications. If it became as big a phenomenon as texting in Europe and Asia, VoiceXML could yet rescue telecoms carriers from their folly in stringing so much optical fibre around the world. It is ironic that it should be old-fashioned voice that lightens the darkness in fibre.

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SEMICONDUCTORS

Bespoke chips for the common man

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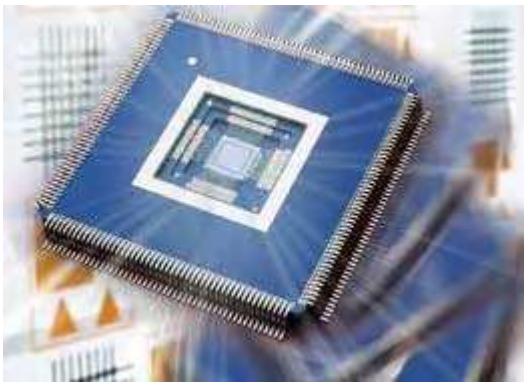
Semiconductors: Using custom chips that do one or two things spectacularly, rather than lots of things averagely, has been a luxury for those needing performance at any price. Now chips that can be rewired in an instant promise to bring the benefits of customisation to the mass market



Chameleon chip changes more than its colour

WHEN designing digital equipment, most manufacturers buy off-the-peg chips from Intel, Motorola and a handful of other companies that produce standard parts by the million. But a small group of specialist firms that produce equipment for doing one or two things spectacularly—say, a 3D graphics card for a computer—have to get their chips specially made for them. That can be extremely expensive and time-consuming. But the performance edge that custom-made chips deliver allows firms that use them to charge a healthy premium in the market.

There are other advantages. Like a made-to-measure suit from Savile Row, a custom-made chip has snob appeal among users that goes beyond mere performance. And for those within the industry itself, firms that use custom chips in their products are considered technologically glamorous—and have arrived financially. Stockmarkets usually recognise them as being a cut above the average.

In fact, custom chips satisfy many of the same desires as a tailor-made suit. They fit the user's needs and foibles precisely; they are extremely good at doing what they are designed for; and they stand out in a crowd through subtle details of fit and function. Of course, nobody has to go to Savile Row to find a suit that fits and looks smart. But the main reason for paying extra for a highly optimised chip (or suit) is that it delivers a combination of functions and performance that allows the system builder to make a special splash in the market, or even to create a new one.

The mobile phone is a good example. There is no room for sloppy design in a product that has to sell to discriminating consumers on looks, price, features and battery life. Without custom chips, people would still be ruining their jackets with mobile phones the size of bricks.

Another reason for choosing a custom chip is sheer performance. The market for PC graphics cards is ruled by extremely knowledgeable consumers who really want to know only two things: how many polygons will the card's graphics processor draw per second, and how much does it cost? If a card maker's chip does not perform as well as the competition's, it had better have a faster one under development or it will be out of business.

So why are custom chips not used more often? The answer comes down to price and the availability of skills. To design a prototype of a custom chip and put it into production costs $10m-15m. With most electronics firms spending around 10% of their revenue on research and development, they need to sell at least $100m of the product to recoup the R&D cost inherent in a custom chip.

Moreover, if there is a mistake in the design, the cost can go through the roof. Finding bugs in the millions of lines of computer language that describe a chip's function is difficult enough. But when that logic is cast into silicon as transistors and interconnecting wires, the problems multiply. Does the physical logic match the written description? If so, is there something about the construction of the physical logic that means it does not function properly? Or is there something wrong with the manufacturing process? All these questions have to be answered for a chip only 5mm on a side, and yet containing over a

kilometre of wiring.

Debugging custom chips is not for the faint of heart. The first prototypes of a recent networking chip cost a customer $11m. But when the customer wanted to increase the chip's performance and cut its area—a far more benign change than fixing a bug—the rework cost a further $5.6m. Suddenly, the manufacturer needed a 50% bigger end market to justify its use of a custom chip.

The costs of custom chips do not stop there. Making a mistake in a custom chip's design may mean missing a market opportunity. The markets for graphics cards, wireless handsets and hard-disk drives, which rely heavily on custom chips, go through product upgrades two or three times a year. Being a few months late in such fast-moving areas can lop 10% or more off expected sales. And with good chip designers in short supply, there is yet another opportunity cost associated with fixing bugs: it stops the company's best engineers from getting on with the next smash hit.

“Making a mistake in a custom chip's design may mean missing a market opportunity.”

With so many odds stacked against them, it is no surprise that the number of companies that can muster the systems knowledge, engineering skill and money to use custom-designed chips is dwindling. Ironically, this is happening as customers—conditioned by Moore's law—have begun to expect ever improving functionality, at ever cheaper prices, in their gadgets and gizmos. That is forcing equipment makers everywhere to be ever more resourceful. The goal is to produce tailor-made devices at off-the-peg prices.

Sharing the cost

One approach is to use what are loosely termed “application specific standard products”. This is a way of describing custom chips that are sold on the market rather than to a specific customer. Such chips (eg, the processor in a digital camcorder) are often designed with the help of one particular customer (eg, Sony), which brings the systems knowledge to make the chip attractive to other manufacturers in the same business. In return for its expertise, the lead partner is given exclusive access to the chip for six months, after which it is sold to anybody who wants it. The partner gets an optimised chip; and though it shares design costs with its rivals, it also has the chance to cream off the top of the market before the competition becomes cut-throat.

If the market is too small to justify made-to-measure, and off-the-peg does not suit, how can electronics companies access the latest technology in chip design? One answer is programmable logic. This idea has been around for years but is only now coming into its own, as costs drive custom chips out of reach.

Programmable logic chips consist of arrays of basic logic gates laid out in a grid of connecting wires. Switches controlled by memory cells allow the inputs and outputs of the logic gates to be connected to the wires, creating complex logical functions from simple components. These chips have long been used as the “glue” to connect the main processors and memory units in large systems. But as manufacturing processes have advanced, programmable logic chips have been able to carry enough logic to become part of the system design in their own right.

Yet although it offers great flexibility, programmable logic pays for it in terms of efficiency. It can take ten times more chip area to produce a logical function on a programmable chip than on a custom design, and the task it performs will probably run slower. But if the design is wrong, reconfiguring the programmable part will take minutes rather than the months needed to revise a custom chip. Against that, the inefficiency of programmable logic can make the chips large—often the largest chips a semiconductor “fab” can make—and that makes them expensive.

Why, then, is the electronics industry embracing programmable logic chips? For several reasons. First, they offer a solution in circumstances where the expense is less than the cost of being late to market. Second, because the design of a programmable logic chip can be modified on the fly, it is ideal for products where industry standards are still being hammered out. That is increasingly the case with high-tech products.

Thus, in the 1990s, as companies making cellular base-stations scrapped over contracts for Europe's GSM mobile-phone networks, programmable logic was used to make sure the equipment could be installed and used as soon as possible. Waiting for custom chips was not an option. That GSM standards were still fluid at the time was another powerful reason for using programmable logic, which could be

adjusted as the standards were changed.

Stripped for action

Programmable logic has come a long way from the days when it was a quick fix to a money-no-object problem. Some programmable logic designs have been stripped down for cost-sensitive applications—such as digital set-top boxes. Most electronic systems include a processor, memory, logic and inputs and outputs. Firms that sell programmable logic devices, notably Altera and Xilinx, both based in San Jose, California, have been eager to show that they can put whole systems on a chip (SOC) and have built hybrid chips that include all the elements needed as fixed blocks.

For instance, Altera worked with ARM Holdings, a British chip firm that licenses its designs to other semiconductor makers, to configure a programmable logic chip to impersonate one of ARM's ubiquitous processors. When it turned out that doing this took up too much of the programmable resources on the chip, Altera built a hybrid chip that surrounded the core of an ARM processor with programmable logic. Similarly Xilinx has linked with IBM to offer up to four PowerPC processors, from the same family that powers the Apple Macintosh, embedded in its programmable logic chips. These programmable system-on-a-chip devices are becoming the new “breadboards” (ie, wiring lash-ups) for electronics designers. They allow users to build complex SOCs that can be programmed and reprogrammed until the functions work properly.

Meanwhile, companies that make custom chips have seen the benefits of programmable logic—particularly in reducing the risk of mistakes—and are beginning to offer it to their customers. Including an area of programmable logic can help a custom chip to deal gracefully with bugs or adapt to shifting standards. This is likely to be a big business in the next few years.

As custom chips embrace programmable logic, and programmable logic takes in major blocks of components such as processors, a further intriguing possibility is emerging. This is the ability to change the function of a chip while it is working. Since programmable logic can change function endlessly, why not use it to do different things at different times? This approach is being explored by several start-up firms, notably Elixent in Britain and QuickSilver Technology in San Jose, California, which are offering different approaches to so-called “adaptive computing”.

The promise of reconfigurable logic is that it should allow the logic and memory resources in a chip to be used more efficiently, especially in applications that need massive computing power. But there is a further commercial advantage. It could turn finished products into a source of service revenue. Imagine a music player that includes programmable logic. When a new music-compression format emerges to replace MP3, owners of the player could download, for a fee, a new decompression algorithm for their player from the maker's website.

The idea that hardware manufacturers—dogged constantly by declining prices—could produce gizmos that not only deliver revenue from sales, but could be a source of service payments as well, has captured the imagination of a number of big consumer-electronics firms. It is as if a Savile Row tailor took a stake in a dry-cleaning chain.

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LAST WORD

A drug of one's own

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For three decades, Ronald Levy has been seeking ways to use the body's immune system to fight cancer—much as it does the common cold. His goal has been to create "personalised drugs", first in the form of antibodies and now as vaccines, capable of destroying a patient's actual malignancy

Tailor of antibodies

IN 1981 Ronald Levy bought himself a yellow station-wagon, with plenty of room for his three young daughters. At the time, he was about to test a new experimental drug for B-cell lymphoma, an often deadly form of cancer that is becoming increasingly common. Which, he wondered, would last longer—his patient or his car? As it turned out, the patient, Philip Karr, won, and is now 88 years old; the car has long gone to the scrapyard of man-made machinery. Mr Karr's miraculous recovery marked the first successful use of antibodies against cancer.

For more than three decades, Dr Levy, now chief of the oncology division at Stanford University School of Medicine, has researched how a person's immune system can be coaxed into fighting cancer—much as it fights the common cold. Thirty years ago, this was a novel idea. Next to surgery, aggressive treatments, such as radiation and chemotherapy, were often considered the only options for survival. Unfortunately, they routinely did patients as much harm as good—by killing off all dividing cells, cancerous or healthy. But with Dr Levy's "proof of concept", explains Dawn Willis of the American Cancer Society, "a whole new field opened up."

The promise of antibodies (or "magic bullets" as they were known at the time) boosted funding for biotech start-ups round the world, and helped Dr Levy to co-found a company, IDEC Pharmaceuticals, in 1985. But commercial success did not come easily. It took more than a decade before a modified version of the antibody was developed by IDEC and got to market, though not customised for each patient, as Dr Levy had originally hoped. In 1997, the Food and Drug Administration (FDA) in Washington, DC, approved Rituxan—the first monoclonal antibody for use against cancer.

The one quality that can be singled out for Dr Levy, says his former research fellow, Larry Kwak, is his perseverance. During his career, Dr Levy watched antibodies go in and out of fashion. He watched medicine based on good science abandoned because it cost too much. Through it all, he never stopped believing that antibodies would evolve into established drugs that could make a significant contribution to a patient's survival.

Also, he never gave up on the customised approach. Since the late 1980s, Dr Levy has been working on another promising treatment against B-cell lymphoma: a patient-specific cancer vaccine. Rather than offering protection against the disease, its aim is therapeutic, for those already afflicted. A few bold biotech start-ups are betting that they can find a cheap enough way to make the medicine. Late-stage clinical trials, usually the last step before receiving approval from the FDA, are already under way. Quite soon, it appears, Dr Levy might at last see his made-to-order approach bear fruit.

War on cancer

A Stanford graduate, Dr Levy began his training in cancer immunology in 1970, when he signed up for a two-year stint at the National Cancer Institute (NCI). At the time, the fellowship was a convenient way

for young American scientists to avoid the Vietnam draft, a thought that was certainly in his mind. But it also gave Dr Levy the opportunity to study with other up-and-coming researchers, such as Dr Steven Rosenberg, who would become chief of the NCI's surgery branch and a leader in tumour immunology and immunotherapy.

Those were exciting times—Richard Nixon had just declared his “war on cancer”, and funds poured into research projects. The idea was to make the connection from laboratory science to clinical medicine, says Dr Levy. There was a feeling that great discoveries were just around the corner.

Meanwhile, two different research teams in Britain did make some big breakthroughs. They would set Dr Levy on course for the next quarter-century. Each healthy B-cell expresses a unique “marker” protein on its surface, which it uses for binding antigens. When B-lymphocytes detect a foreign substance in the body, they respond by dividing and turning into little factories, churning out the same protein over and over again. This then binds to the antigen, tagging the invader for destruction.

In B-cell lymphoma, one cell also divides endlessly, but this time without a purpose. In 1975, George and Freda Stevenson, of the University of Southampton in Britain, discovered that, in each individual patient, all malignant B-cells display the same “marker” protein, which could be used as a target. At the same time, César Milstein and Georges Köhler, of the Medical Research Council's Laboratory of Molecular Biology in Cambridge, worked out how to make monoclonal antibodies (they later received a Nobel prize). They fused two types of mouse cells—a tumour cell and a lymphocyte. The new hybrid cell had properties of both. It was not only immortal, but could also produce antibodies forever.

When Dr Levy realised the implications, it became clear that he not only had a way to identify and target all cancerous B-cells in one patient, but would also have the ability to create a potent customised therapy that would exploit a B-cell's unique marker protein. By 1975, Dr Levy was hired by Stanford and eager to test his ideas in his own lab.

Just one question remained: should he develop a patient-specific antibody able to latch on to the target directly, or formulate a customised vaccine that could train a patient's immune system to launch its own attack? After asking a few colleagues from around the world, including the Stevenson team, he settled on making the antibody.

Great expectations

When the Karr case became public in 1982, Dr Levy's phone began ringing non-stop. Patients lined up for the new treatment as the press came knocking at the door. Venture capitalists came, poised to exploit the next generation of blockbuster drugs. This frenzy helped Dr Levy to start IDEC Pharmaceuticals.

Yet the road to success was rocky. Although Dr Levy was able to repeat his findings, many other researchers were not. There were two difficulties: in some cases, the human immune system reacted strongly against the foreign mouse molecules and neutralised the antibodies; and many antibodies were not aimed at the right targets and simply had little effect. It would take more than a decade to sort out these problems.

“Dr Levy proved that his antibodies worked, but the cost of making them was prohibitive.”

Dr Levy proved that his particular antibodies worked, but the cost of making them was still prohibitive. After years in clinical trials, IDEC abandoned the lengthy process of producing custom batches for individual patients. The company almost went bankrupt in the process. “Ironically, we had a treatment that worked [but] couldn't deliver,” recalls Dr Levy. The science was good, says William Rastetter, IDEC's boss for the past 16 years, but it did not prove cost-effective.

By the early 1990s, the conventional wisdom on Wall Street was that antibodies just did not work. But IDEC continued, this time round with a new target found on many cancerous B-cells. Now all patients could receive the same antibody. Manufacturing the drug turned out to be economically feasible, and it produced measurable responses in about half of all patients. In 1997, the FDA approved Rituxan, making it not only the first cancer antibody ever adopted for widespread use, but also the first lymphoma medication to hit the market in 20 years. It has since become a $1 billion drug.

Many in the field give Dr Levy credit for laying the foundation for Rituxan's success, but he also never gave up trying to make “a drug of

one's own". Since 1988, he has led about a dozen small studies, testing a patient-specific cancer vaccine. So far, the results have been encouraging: at least half the 200 or so people who received the medicine showed an immune response, and many stayed in remission for longer than the two years that are typical following chemotherapy. In a few cases, tumour shrinkage was observed, lasting four to five years. Several patients have remained disease-free for years after receiving the treatment. But, even if the vaccine eventually proves successful in large randomised clinical trials, one big question will remain: can it be manufactured cheaply enough to be cost-effective?

Personal vaccine in the making

After struggling with this for nearly two decades, Dr Levy remains as determined as ever to find a solution. For one thing, vaccines are only half as much trouble to make as antibodies. Rather than manufacturing the antibody, scientists isolate the "marker" protein and mix it with an immune booster, hoping that the formula will coax the patient's own immune system into launching an attack on the cancerous cells. To perfect the process, Dr Levy is prepared to work with anyone who has a good idea. "He's Darwinian about it," says Dan Denney, chief executive of Genitope, a biotech company in Redwood City, California.

It would be better if making "drugs of one's own" did not cost so much. But surgery—another form of customised therapy for cancer—is far from cheap. "We do it because it works, not because it's cheap," says Dr Levy. But unlike the business of surgery, with its highly specialised practices, the pharmaceutical industry has evolved around the drug-making notion of "one size fits all". Dr Levy hopes that one day the two concepts will merge—so that people can be treated pharmacologically as the individuals they are.

That wish could come true in the case of B-cell lymphoma. A handful of his former research fellows have gone on to do their own studies in the field. The closest to success looks like being Dr Kwak, now a principal investigator at NCI's experimental transplant and immunology branch. After completing a series of small, successful studies, Dr Kwak is now conducting his own late-stage trial.

So far, no cancer vaccine—customised or otherwise—has reached the market. But for B-cell lymphoma patients, the wait may be coming to an end. If everything goes to plan, data from Genitope's trial may be released two years from now. And if the FDA deems the study a success, approval could follow a year or so later—a quarter of a century after Dr Levy bought himself a yellow station-wagon and rid Philip Karr of B-cell lymphoma. "The irony of it all", comments Brook Byers, a partner at Kleiner Perkins Caufield & Byers, a venture-capital firm in Silicon Valley that was one of the original investors in IDEC, "is that 'personalised medicine' is now the new thing."

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Bankruptcy in America

The night of the killer zombies

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Ronald Grant

Critics of Chapter 11 say it prolongs companies' lives beyond sensible limits, damaging healthy rivals

“BUSINESS as usual” was the message from United Airlines this week, as what was once the world's biggest airline became the world's biggest airline bankruptcy. As officials rushed to reassure customers, United pledged “even better” service, now that it is operating under the protection of Chapter 11 of America's bankruptcy code. Glenn Tilton, the veteran oilman hired three months ago to turn United round, promised “a new beginning” for the ailing carrier—not Chapter 11, but Chapter one, as Mr Tilton put it.

Chapter 11 does indeed offer companies a shot at starting over. That is the point. Rather than shutting a firm because it cannot meet its obligations to creditors, as happens in many other countries, Chapter 11 gives a firm temporary protection from its creditors, as they work out if it has any value left and who should have what stake, be it equity or debt, in the company that eventually emerges from bankruptcy protection. Even so, the efficiency of Chapter 11 is under growing scrutiny. A particular concern, in industries such as telecoms and now airlines, is that bankrupt firms will return with manageable debts and thus be better able to compete, with the result that they force hitherto healthier rivals into bankruptcy in their turn (see article on how this may happen to United's rivals). Does Chapter 11 create zombie companies that live on, only to drag other firms into their graves?

There is no shortage of zombies. Bankruptcy courts in Delaware, New York and most recently Chicago, where United filed, abound with undead giants. Of the ten biggest bankruptcies since 1978, seven are now in the courts, dragging behind them combined assets of nearly $300 billion. Is the system really working?

Chapter and verse

One philosophical objection raised increasingly often is the rule that puts the debtor in control of the bankruptcy process, an idea that often leaves foreigners “stunned”, says one bankruptcy lawyer. This typically means that the managers who bankrupt a firm can have a go at restructuring it to keep it alive. They usually opt to try, rather than liquidate the firm.

During the wave of bankruptcies in the late 1980s and early 1990s, the merits of this were more obvious. Many firms went

bust because they borrowed heavily during the leveraged-buyout boom; restructuring the debt revealed essentially viable firms underneath. Whether the 50-odd telecoms firms that have gone bust recently, let alone United Airlines, have a business worth salvaging is less obvious.

Big and bust

The largest Chapter 11 bankruptcies, $bn

	Bankruptcy date	Total assets
WorldCom	Jul 02	103.9
Enron	Dec 01	63.4
Texaco	Apr 87	35.9
Financial Corp. of America	Sep 88	33.9
Global Crossing	Jan 02	25.5
UAL Corp.	Dec 02	25.2
Adelphia Communications	Jun 02	24.4
Pacific Gas and Electric	Apr 01	21.5
MCorp	Mar 89	20.2
Kmart	Jan 02	17.0

Source: BankruptcyData.com

Moreover, managers of a bankrupt firm are gaining more, not less, control over their fate. For instance, Chapter 11 gives debtors the right to propose a restructuring plan within 120 days. But judges routinely extend this deadline. It used to be rare that judges would allow debtors to auction assets before all creditors had approved a restructuring plan, says Lynn LoPucki, a professor at the law school of the University of California, Los Angeles. Recently, says Mr LoPucki, judges have allowed managers at Polaroid and Enron, for example, to sell assets before even drafting a restructuring plan, thus avoiding a formal creditor vote and the hundreds of pages disclosing information that must accompany it. Since it filed for bankruptcy in December 2001, Enron has sold a wind farm, its energy-trading arm and a construction company, among other businesses. Company officials say that Enron ensures that its creditors support its asset sales. But without full disclosure, who is to know for sure that Enron is making sales to the right people and at the right prices?

Leaving incumbent managers in charge of a bankrupt firm has become increasingly controversial since the bankruptcies of Enron and WorldCom prompted a more widespread questioning of the usefulness of the executive class. Such concerns may be overdone. In practice, incumbent managers rarely survive to lead restructured firms out of the bankruptcy courts. But it is true that judges, often all too human, sometimes penalise creditors who throw their weight around in the process of negotiating a restructuring plan. This can let tainted managers cling on longer than may be prudent.

It took creditors three months of jostling to oust John Sidgmore from the helm of WorldCom, and he agreed to go only when he was promised a new management position, even though he was part of the management team that led the firm through its $9 billion accounting scandal. Certainly, judges would deflect some critics of the bankruptcy process if they worked closely with creditors to get new managers in place fast and to agree a restructuring plan as quickly as possible.

Nor is the reputation of Chapter 11 helped by the sight of lawyers, accountants and other restructuring experts feeding off the carcass. The headline figures for professional fees for the latest batch of bankruptcies are likely to break all records. One creditor committee at Enron, for instance, guesses that fees may hit $700m for the two years or more that the firm thinks its bankruptcy will take. On recent trends, fees related to WorldCom could easily top $1 billion.

Yet these headlines may be deceptive. Measured as a percentage of assets at the time of filing, fees have actually been falling in America, from around 3-4% in the late 1980s to 1-2% today. This may be despite the apparent effort of some bankruptcy judges to drum up business through their leniency. Officials from the Justice Department should spot excessive fees. But their niggling objections typically focus on minutiae such as expensed lunches and photocopying costs, and are mostly overruled by the judges, says one bankruptcy lawyer. And it is “easier to get your fee application approved in New York than in Ohio”, says the lawyer. Ohio, needless to say, is not a destination of choice for the bankruptcy industry.

Nor do incumbent managers always get their way and creditors lose. Chapter 11 is “like a giant convention, where everybody brings their own lawyer”, says one expert. This week, Mr Tilton claimed to be in control of United. In practice, he will find that his power is constrained. Creditor committees mostly keep a low profile, but behind the scenes they pack a punch. Judges tend to seek balance—which may be more than the managers deserve, it is true—so that one party does not gain at the expense of others. Mr Sidgmore has called his experience in the courts “brutal”.

And the messiness of the process should not obscure the fact that a company can emerge from Chapter 11 only if its creditors reckon it is worth more alive than dead. Zombie companies may be the price that America pays for the second chances it generously dishes out. As Stuart Gilson of Harvard Business School points out, nobody sees the lost opportunities of systems such as Britain's or continental Europe's, which both favour liquidation over restructuring—though that is changing. And more debtors may stay buried this time around: Enron is liquidating itself.

Even so, a backlash may be coming. It is hard, even now, to point to an example of a successful big bankruptcy, in which the patient emerged, refreshed and fit, to dominate its industry. If the current batch ends in fat fees and failure, it may become even harder to dispel the thought that all this hard work is not worth it. If so, the restructuring industry may end up having to swallow some of its own medicine.

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Repeated bankruptcy

Chapter 44

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Testing the limits of Chapter 11

IN THE race to explore the boundaries of America's tolerance for bad credit, Harvard Industries is unmatched. This year it went bust for the fourth time.

At least 60 big firms have gone bust twice, according to a database at UCLA Law School. These are now commonly referred to as “Chapter 22s”, as they have twice used Chapter 11 of the federal bankruptcy code. Filing more than twice is tougher. The database contains only three “Chapter 33s”: TWA, an airline; United Merchants and Manufacturers, a textiles firm; and Salant, which continues to make clothes for men.

All of which makes Harvard's accomplishment notable. Its ability to survive repeated failure reflects its skill at hatching plans that pleased investors, even if the results never have done. Founded as a Massachusetts brewery by a German businessman in the 1930s, looking ahead to the repeal of prohibition, it emerged, long after its foreign ownership led to seizure by the American government at the onset of the second world war, as a large, fast-growing conglomerate selling electronics, armaments and furniture, before going bust for the first time in 1972.

A lengthy reorganisation produced in 1983 a small firm that bought its way into becoming a big vendor of components to car makers. In 1988 a laudatory Chicago newspaper article labelled Harvard “an investment banker's dream”. A leveraged buyout soon followed. Within three years the heavily indebted firm was bust. After another reorganisation, new management went on a new acquisition binge. By 1997, it was bust again.

The Harvard Industries that emerged from bankruptcy in 1998 had sales of $500m, about 60% less than in 1995. After a loan charging interest of 10% fell through, it had to borrow at nearly twice that rate, says Joseph Smolinsky, a lawyer at Chadbourne & Parke, who represents the firm. Meanwhile, its revenues continued to tumble, making it impossible to support the $30m a year that it was obliged to pay in health-care and pension obligations for 6,000 former employees whom it had acquired in prior takeovers.

This summer a decision was made to liquidate. A pension shortfall of $100m was passed to the federal Pension Benefit Guaranty Corporation. Health-care obligations were voided. Without these costs, the four remaining divisions were profitable and have been sold. One division, located in a small Iowa town, was bought by local employees. Left behind is the name Harvard Industries, which seems to have attracted no bidders.

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United Airlines

Cruel phoenix

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United Airlines could bring down other American carriers

Get article background

CHAPTER 11 gives United Airlines a chance to reshape its business to survive—though that is no sure thing. Since deregulation led to a price-cutting war in the 1980s, three leading carriers have disappeared. TWA, PanAm and Eastern Airlines all spent time in intensive care, with Chapter 11 affording protection from creditors, before they were liquidated or taken over. The only somewhat successful big Chapter 11 reorganisation among airlines was Continental's, and it had to be rescued by the courts twice before regaining health, with new outside investors and a management team led by Gordon Bethune, an ebullient former Boeing manager. His main innovation was to motivate the airline's downtrodden and bolshy workforce by giving them incentives based on such factors as flight punctuality.

The collapse of United marks the failure of one of the highest-profile employee-owned companies. Despite swapping some pay for shares to rescue the airline back in 1994, the United pilots and ground crews never behaved like responsible shareholders. They kept a veto on big board decisions—which they used to frustrate the efforts of successive bosses.

Going into Chapter 11 gives the company a chance of a fresh start. It has raised $1.5 billion in new debt and has about $800m in cash. Against that, Glenn Tilton, its chairman, says that it had been burning cash at a rate of at least $10m a day. The bankruptcy court has let the airline go on buying fuel and other supplies, as well as paying wages. Travellers have been assured that their air miles are safe.

For employees, more pain is inevitable. Deep staff cuts and wage reductions are unavoidable if the airline is to shrink to a profitable core. Liquidation is unlikely, not least because the airline's assets—such as its fleet of aircraft—are already tied up in complex financing deals with outsiders, who will prefer to keep them flying. Nor are United's routes, such as those between America and London Heathrow, likely to be sold. With the European Union moving towards negotiation of a broad “open-skies” agreement with the United States, route rights may have a short life—so they might not fetch much.

For other American carriers, a reinvigorated, less indebted United could prove a nasty challenge. Although the Chicago-based carrier's costs are now greater than those of its rivals, it should prove relatively easy for management to push through changes that make United competitive, such as lower wages and more flexible working. Although American Airlines is bigger than United overall, inside America United is still dominant.

With two national network carriers now in Chapter 11 (the other is US Airways), fears must be rising among managers at American, Delta and Continental, who are already worried by the inexorable rise of the low-fare carriers led by Southwest and JetBlue. Airline industry leaders asked the government for—and got—a federal bail-out after September 11th, because they feared the consequences of one or two going into Chapter 11 and then, relieved of the need to meet interest payments, wrecking the market by slashing fares. That is precisely what may happen now if United decides to take advantage of bankruptcy protection to steal business from rivals. The nightmare scenario is that a wave of Chapter 11 bankruptcies could sweep through America's airline industry, condemning it to many further years of instability.

What of the international impact? Might United's plight deal a severe blow to the world's largest airline alliance, the Star group, founded by United and Germany's Lufthansa, and since extended to about a dozen other carriers? Maybe not. The core of this grouping remains United and Lufthansa. They have recently been allowed to pool operations across the Atlantic, which should boost United's revenues.

Meanwhile, Lufthansa, which is profitable, will bend over backwards to help its most important partner, perhaps even by lending it money. So “new United” may get by with a little help from its friends.

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Fiat

Imbroglio

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Italy's prime minister is meddling in Fiat, for his own reasons

THE drama surrounding Fiat has become more confusing than ever, with the departure on December 10th of the chief executive of five months, Gabriele Galateri, and much talk of the possible demise of the chairman, Paolo Fresco, at a board meeting scheduled for Friday, December 13th—its second meeting within a week. Although on December 11th Mr Fresco said he intended to stay put till next summer, Friday might yet prove unlucky.

Mr Galateri has spent most of his life running the family interests of the Agnellis, who own about a third of Italy's biggest car company. Parachuted into the struggling Fiat group last summer, Mr Galateri devised a recovery plan based on 8,100 job cuts and the closure of a factory in Sicily. But he became fed up with constant sniping against him, not least from Italy's prime minister, Silvio Berlusconi. Last week, Mr Berlusconi, irked at the loss of some 2,000 jobs in a part of Italy that had voted heavily for his party, said that he could do a better job of running Fiat than the present management. Mr Fresco said Mr Berlusconi had “gone crazy”.

Messrs Galateri and Fresco spent the past few months persuading their banks to support their plan. The strategy was to cut losses at Fiat Auto, so that General Motors (GM) would honour its deal to buy the firm. The world's biggest car firm already owns a 20% stake in Fiat Auto and has joint ventures for common engines and gearboxes to be used in small models by Fiat Auto and Opel, GM's European arm.

GM has the first right of refusal on any sale by Fiat Auto. More crucially, the Italian holding company has a “put option” to sell its remaining 80% of shares in Fiat Auto to the Americans in 2004. But GM has become increasingly reluctant to buy the remainder of Fiat Auto, a fact underlined by its recent write-down of its existing stake from the $2.4 billion it paid to just $220m. Hence the rescue plan.

In competition with the restructuring orchestrated by Messrs Fresco and Galateri, Mr Berlusconi is pushing an alternative. This has the backing of Mediobanca, a Milanese investment bank that used to pull all the strings in corporate Italy, but has seen its star wane since the death of Enrico Cuccia, its nonagenarian boss, two years ago. Mediobanca has already helped Fiat by paying about $1 billion for a 34% stake in its Ferrari business. Now it wants to press its advantage. It is worth noting that Mr Berlusconi has an indirect stake in Mediobanca.

Not only does Mr Berlusconi, a businessman before becoming prime minister, dislike the idea of foreigners taking over Fiat. He also sees opportunities to boost his own media interests as Fiat founders. He wants to acquire Fiat's press interests—*La Stampa*, a Turin daily, and a big stake in *Corriere della Sera*, the country's most prestigious paper. Mediobanca, meanwhile, wants to get its hands on Fiat's profitable Toro insurance company, to add to its holdings in Generali and SAI Fondaria, two leading insurers.

Mr Berlusconi appears to have talked into his camp Umberto Agnelli, who is in effect in sole charge of the family's fortunes since his elder brother, Gianni, is ailing. Umberto Agnelli visited Mr Berlusconi on December 10th and the prime minister devoted much of the day to intervention in the affairs of Italy's most famous industrial company. This lapse from his free-enterprise creed would seem odd, were it not for the other interests involved.

His rival rescue plan is dressed up as an Italian solution to Fiat's problems, saving it from the hands of the Americans at GM. This is a bit rich on two counts. First, the Americans, though happy with their collaboration with Fiat, are now leery of taking on the whole thing. Second, the Mediobanca-Berlusconi plan would involve the possible participation of (not strikingly Italian) Volkswagen, which would (it is

said) take a 39% stake in a company grouping premium brands such as Ferrari, Maserati and Alfa Romeo, all now part of the Fiat stable.

Whether this would really appeal to the German car maker is unclear, as it already owns several premium brands, including Bentley, Lamborghini and its own Phaeton luxury car. On December 11th, VW said its interest was limited to technical collaboration between its Audi division and Maserati. But presumably that could change given the right incentives.

The plan also involves parachuting in as chief executive of the Fiat parent company Enrico Bondi, an old Mediobanca hand who made his reputation turning round the Ferruzzi agro-chemicals business and, latterly, sorting out troubled Telecom Italia. Meanwhile, the danger is that Fiat's sales will suffer further damage from the uncertainty surrounding it. This is what happened to Rover, an ailing British brand bought by Germany's BMW in 1994. Fiat's brand has long since lost the lustre that gave it over half of its home market until the late 1980s. Now it wins less than 30% of Italian car sales and its share of Europe's markets has halved from 14% in the 1990s. This week's carnival will have done nothing to boost its image.

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More telecoms trouble

Wireless and less

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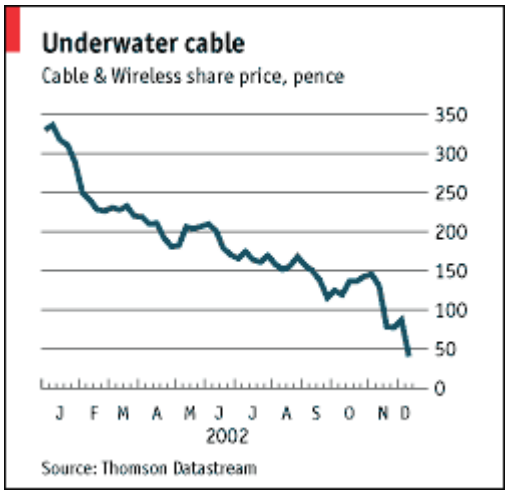
From The Economist print edition

Things look bad for Cable & Wireless

EVEN by the standards of telecoms, Cable & Wireless has had a terrible week. On December 6th, Moody's, a credit-rating agency, downgraded C&W's debt to junk status. This triggered a previously undisclosed clause in the company's agreement with Deutsche Telekom, to which it sold its stake in a British mobile-phone operator in 1999. The clause requires C&W to set aside £1.5 billion ($2.4 billion) in cash, or to obtain an equivalent guarantee, to indemnify Deutsche Telekom against possible British tax liabilities related to the sale. The sudden emergence of this skeleton from the closet sent C&W's shares down by 50%, taking its market value below £1 billion and prompting its ejection from London's FTSE 100 index of top companies.

Investors duly called, yet again, for a change of management. It seems that either Graham Wallace, C&W's chief executive, failed to inform the board of the potential liability related to the Deutsche Telekom deal, or that he did so but they decided it was not worth making public. Neither scenario reflects well on the company. Its best defence is to plead incompetence. A tart research note from analysts at Dresdner Kleinwort Wasserstein suggested this week that investing in the company "is like buying what appears to be undervalued real estate at the foot of an active volcano".



What makes C&W's implosion so tragic is that it could all have turned out so differently. At the start of the telecoms boom C&W found itself in the unusual position of owning both a worldwide cable network and a collection of local telephone firms in Britain and its former colonies, a hangover from C&W's historical roots as operator of the British Empire's telegraph and telephone networks.

The conventional wisdom in the boom was that the future lay in providing high-speed data connections on a global scale. So C&W duly sold its local-access firms in Britain, Hong Kong and Australia, and invested the proceeds in long-haul data capacity and related services for large companies. It bought an American network, built a European one and beefed up its undersea cable network.

The problem, of course, was that many other firms were doing exactly the same thing, resulting in a capacity glut and tumbling prices. Former national monopolies such as British Telecom and Deutsche Telekom responded to the ensuing crash by retrenching to their home markets, where local-access networks provide reliable revenues. But C&W had lost that option and had no choice but to forge ahead with its global strategy, alongside WorldCom, Global Crossing, 360networks and other troubled operators. It even branched out into the web-hosting business—just before it collapsed.

In recent months C&W has issued a string of profit warnings, restructuring plans and lay-offs. And its attempts to cut costs and shut unprofitable businesses only seem to have made things worse. In September, for example, C&W said it would spend £200m restructuring its American operations. By November, the restructuring cost had grown to £800m. In March, C&W said its total property and lease commitments were £897m. But last month, after reviewing its property portfolio, it revised the figure to £2.2 billion. As these unexpected liabilities mount up, the company's cash pile, which until recently was expected to help it to ride out the storm, may vanish fast.

So although C&W faces the same difficult market as other telecoms firms, it is distinguished by the

incompetence of its management—which, in this industry, is saying something. Mr Wallace adamantly refuses to resign. The board seems to have no wish to remove him. Three of C&W's five non-executive directors have a total of 16 other non-executive directorships between them, which may mean they did not have their eyes on the ball. One of them, Raymond Seitz, a former American ambassador to Britain, has five other non-executive posts, including one at Marconi, another British telecoms firm that has excelled only in its ability to destroy shareholder value. This week one group of investors invited Britain's Financial Services Authority to investigate C&W. Other investors are muttering about a shareholder lawsuit, perhaps in litigation-friendly America. But there may soon be nothing left to fight over. Cable & Wireless, like its cables, is deep underwater.

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Russia's oil auction

Christmas viewing

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Next week's auction of a Russian oil firm may be won by the Chinese

SANTA CLAUS is making an early stop in Moscow this year. On December 18th the Russian government could, by some estimates, receive more than $3 billion when it sells its 74.95% stake in Slavneft, an oil company—comfortably the biggest sum ever raised in a Russian privatisation.

Russia has come a long way since the days when “privatisation” meant deals done in private by aspiring billionaires. This sale will be by a live, televised auction—exact format as yet unknown—to dispel suspicions that the winner is always agreed in advance, which have dogged previous sealed-bid auctions. Even if Slavneft nets only the $1.7 billion starting price, compare that sum for one relatively small firm—seventh in reserves and in crude production in the country—with the $1.5 billion or so that it cost the owners of Yukos to assemble what is now Russia's highest-valued and second-biggest oil company, which has over five times the reserves and over three times the sales of Slavneft.

And yet until recently it seemed that the winner of the Slavneft sale was nonetheless a foregone conclusion. The anti-monopoly ministry said it had received 12 applications to bid by this week (the deadline is December 15th), but the favourite has long been Sibneft, the sixth-largest oil firm. After a management struggle earlier this year, a former Sibneft executive, Yuri Sukhanov, became president of Slavneft. Sibneft and the Tyumen Oil Company already hold a small but influential slice of Slavneft through an investment trust. Any other bidder for the government's stake would also have to buy out Sibneft and Tyumen to win full control of Slavneft's juiciest bits, its Megionneftegaz production subsidiary and Yaroslavl refinery.

Last month, when the Belarussian government realised what was happening and tried, belatedly, to sell its own 10.83% stake in Slavneft before the Russian auction devalued it, Sibneft was the only bidder. Even then, the Belarussians had to reduce their $250m asking price to $207m.

Already, Sibneft, with Tyumen, controls nearly a quarter of Slavneft. “Buying the rest of Slavneft and trying to operate it in the teeth of Sibneft would be an extremely disagreeable experience,” says Eric Kraus, an analyst at Sovlink in Moscow. Lukoil, Russia's biggest oil firm, and Yukos evidently agree. Buying Slavneft had never made much sense anyway—Lukoil would end up with unnecessary refining capacity and Yukos with more reserves than it can easily exploit. So it was no surprise when last week they dropped out.

However, the government, facing a debt-repayment hump next year, wants to raise as much from the Slavneft sale as possible. How convenient, then, that hours after President Vladimir Putin returned from a trip to China to promote economic ties the China National Petroleum Corporation (CNPC) said that it wanted to bid, too. Whether by coincidence (as they claim) or by design, Lukoil and Yukos did not drop out until after that.

Buying Slavneft would make sense for CNPC. With its oil needs outstripping the growth of its own reserves, China would like to secure oil farther afield. It would be good, too, for Yukos, which wants to build an eastward pipeline to get its own oil out of Siberia and reduce its dependence on Russia's state-run oil-transport company. Having CNPC as a customer too would give the $2.5 billion pipeline project a sounder financial footing.

Sibneft, despite arranging several loan guarantees, will struggle to outbid state-owned CNPC. But the Chinese firm will be hard put to run Slavneft without local cooperation—which makes some observers suspect it is really only in the auction to bid up the price. “I don't expect CNPC to win”, says Tom Adshead at Troika Dialog, a Moscow investment bank. “Foreigners have never been allowed in before and

there's no reason they should be now." The Russian public would not be pleased by a Chinese win. Still, what once seemed certain to be a dull one-horse race is turning into a real Christmas cracker. And all on TV.

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About sponsorship

Commercial speech

Just don't say it

Dec 12th 2002
From The Economist print edition

To what extent do companies have the right to free speech?

AP

Nike would like to say it doesn't

IN THE next few days the Supreme Court will decide whether to review the case of *Nike v Kasky*. America's top judges reject 99% of the briefs that thud into their in-tray, but can they dare to ignore this one? At stake is the basic principle of the first amendment to the American constitution: free speech. To what extent should companies have the same rights as individuals when they make public statements? Specifically, are their public pronouncements—in debates, on websites, or in published letters or articles—normal speech, or are they advertising that could expose them to million-dollar lawsuits?

More than 40 bodies, from Microsoft, Pfizer and the US Chamber of Commerce, to CNN, Bloomberg and the *New York Times*, have joined Nike in pressing the Supreme Court to take the case. They hope it will overturn a Californian judgment.

The original suit was brought by an anti-corporate activist named Marc Kasky. His private action claimed that Nike had violated California's unfair trade practice and advertising law when it issued press releases, newspaper ads and letters to editors to rebut claims that workers in its South-East Asian factories laboured in “sweatshop” conditions. Although two lower courts found for the sports-goods maker, last spring California's supreme court ruled by a 4-3 majority that Nike's public defences constituted “commercial speech”. Thus they were aimed at consumers of their products and so, like other advertisements, not protected under the first amendment.

Admittedly, this is not wholly illogical. A reputation for running sweatshops may damage a brand, and thus hit sales. So defending the brand from that taint is arguably aimed at boosting sales.

Unless the ruling is reversed, companies fear they could face lawsuits for anything they say in good faith on matters relating to their business, from globalisation to the environment to race relations, if it later turns out to be untrue or misleading. According to Floyd Abrams, a constitutional lawyer: “the California ruling is extraordinarily dangerous. It puts corporations at terrible risk if they speak out on public issues that involve their business.”

Mr Abrams says that the effect would be to muzzle companies, stifle debate and reverse a welcome trend towards greater transparency. According to Thomas Goldstein, a lawyer acting for Nike, if the ruling holds, “companies will be much more reluctant to speak. Even the truth will not be a defence, since any statement deemed misleading could be actionable.” Nike has already decided not to release its annual “corporate social responsibility” report. Talking to the press could also be risky, as firms cannot control how quotes are used.

If the ruling stays, firms everywhere may be hit, including in Europe. As Mr Abrams points out “California's supreme court is rightly taken as a serious court whose rulings could well be adopted elsewhere.” Since European firms have stricter requirements than American ones about publishing social responsibility reports, they could less easily withdraw from public debate. (On the other hand, they already have to operate without a constitutional right of free speech.) That web content produced in one country may be subject to the laws of a country where it is read was made clear on December 10th when Australia's High Court ruled that an article on Dow Jones's American website could be grounds for a defamation lawsuit in Victoria, where the article was downloaded. With companies already under fire for not communicating honestly and openly enough, how odd to stifle their ability to take part in public-

policy debates in the name of consumer protection.

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About sponsorship

Video games

Strong players

Dec 12th 2002
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The video-games industry is booming, but how long will the good times last?

VIDEO games let you escape into an alternative reality—something gaming firms know about at first hand. For as other technology firms face stagnant or shrinking markets, the video-games industry seems to inhabit a parallel universe. It has had a bumper year, maybe the best it ever will. Global sales of games software and hardware will exceed $31 billion this year, says Informa Media, a research firm. This summer, UBS Warburg invested 17% of its model technology portfolio in two games publishers, Electronic Arts and Activision. Gaming, it seems, is recession-proof.

Grand Theft Auto

The joy of Grand Theft Auto

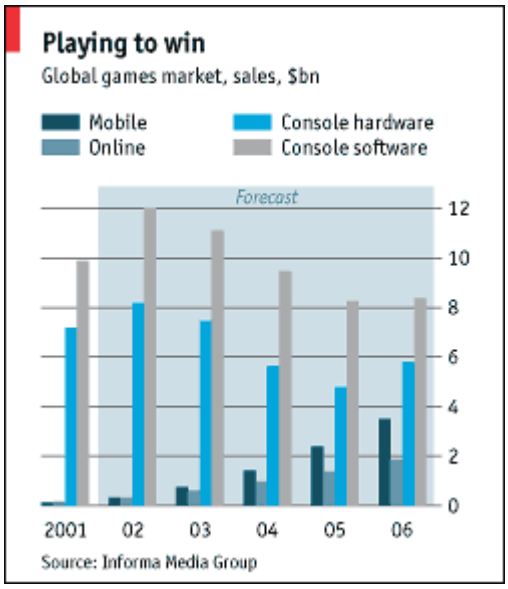
The industry is booming because it has its own cycle, as one generation of hardware succeeds another every few years. That cycle, unrelated to the broader economic cycle, is now at or near its peak. Games consoles are flying off the shelves. The current line-up is of Sony's PlayStation 2, the market leader by far, plus Microsoft's Xbox and Nintendo's GameCube, which are fighting for a distant second place.

Each gaming boom is bigger than the last. Children who have grown up with games keep on playing, which expands the market, observes Nick Gibson, an analyst at Durlacher Research. It also increases the players' average age: according to the Interactive Digital Software Association, the average American gamer is 28. Older players tend to have more disposable income to spend on games than do teenagers.

This shift is reflected in the rise of “mature”-rated games, which now account for 13% of the American market, up from 6% in 2001, according to NPD, a market-research firm. Currently top of the pile is “Grand Theft Auto: Vice City”, the fastest-selling game ever after its launch in October, with more than 1.4m copies sold in America alone during its first three days on the market. It casts the player as a gun-toting gangster with a complete disregard for traffic regulations, or indeed laws in general, and is set in a Miami-like city in 1986, with the bad haircuts and period music that seem to appeal to gamers in their 20s and 30s.

But how much longer will the good times last? Many observers are optimistic about the prospects for games sales next year, particularly in America. But Informa Media's figures suggest that 2002 was the peak of the cycle, and that the market will shrink next year. “This is the last big Christmas for hardware sales,” says Toby Scott, editor of *Games Analyst*, an industry newsletter. Other observers, such as Mike Wallace at UBS Warburg, expect console sales to grow only slightly next year.

Things will then cool off until the next generation of consoles appears in 2005. The next peak is not expected until 2007. But the industry has two new tricks up its sleeve, in the form of online and mobile gaming. Both are dwarfed by console gaming at the moment, but are the focus of much activity, and could provide recurring revenues to help smooth out the industry's cyclical nature (see chart).



Online gaming has got off to a small but promising start in recent weeks with the release of adaptors that link consoles over the Internet. In America, Microsoft sold 150,000 starter kits for its "Xbox Live" service within a week of its launch last month. Sony says it has signed up 175,000 subscribers to its rival online service, launched in August. Both services, which involve monthly or annual subscriptions, will launch in Europe next year.

So far, their appeal is narrow. Online gaming relies on high-speed, always-on "broadband" Internet connections, which have taken far longer to spread than the games industry had hoped. Few people will sign up for broadband just to play games, so the market for online gaming is limited to those who already have it. While Microsoft is taking the most aggressive approach to online gaming, it has sold only around 5m consoles, compared with sales of over 40m PlayStation 2s, so its strength poses little danger to Sony yet.

The slow spread of broadband means that both firms' online-gaming efforts are really just a warm-up for the next console cycle. But both Sony and Microsoft have a bigger ambition: online consoles could eventually be used to distribute all kinds of entertainment content, including films and music.

Gaming on mobile phones is also taking small but crucial steps forward. Today's phones mostly have one or two simple games built in. The latest handsets have colour screens and can download software remotely. Their processing power matches that of the arcade-game machines of the 1980s, so classic games such as "Pacman" run well. Games take roughly a minute to download, but adding one to a handset is almost as easy as downloading a new ringing tone or screen logo.

Informa predicts that mobile-gaming revenues will reach $3.5 billion by 2006; other estimates are higher. What is striking, says Ben Wood, an analyst at Gartner, is that people seem reluctant to pay for other content on their mobile phones but are happy to pay for games. In Europe, downloading a game costs between *euro*2.50 ($2.50) and *euro*8. Mobile operators hope that, in future, multi-player games in which players compete over the airwaves will generate extra revenue.

Mobile gaming is a very different market from console gaming. Prices of individual games are much lower, but the popularity of mobile phones means volumes are potentially much higher. Indeed, mobile phones could ultimately become the world's most widespread gaming devices. Next year Nokia, the world's largest handset maker, will launch a handset specifically aimed at gamers. Called the N-Gage, it is a direct challenge to Nintendo's handheld console, the Game Boy Advance.

Just as Microsoft's understanding of computer networking could give it the edge over Sony in online-console gaming, Nokia's wireless expertise could prove a crucial advantage as mobile gaming evolves. If online and mobile gaming do take off, Microsoft and Nokia are well placed to ride the industry's next wave.

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About sponsorship

Face value

The acceptable face of capitalism?

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Merck

Ray Gilmartin of Merck may be a new role model for post-celebrity chief executives

CELEBRITY bosses, it is now widely agreed, are bad for business. Not so long ago, being run by a man like Jack Welch, Jeffrey Skilling or Bernie Ebbers boosted a firm's share price, as investors thrilled to their charismatic heroes' bold visions, promises of shareholder value and brave takeover bids. But now the idols are fallen. Is a new role model needed for the post-celebrity era? One candidate for the job—which might, admittedly, turn him into a celebrity and thus the title into a poisoned chalice—is Ray Gilmartin, boss of Merck, a big American drugs company.

Brash charisma is not something you associate with Mr Gilmartin, who has run Merck since 1994. Rather, the impression he gives—apparently unaided by such erstwhile essentials as an executive coach or an image consultant—is of being honest, earnest, even ever so slightly dull, much like an accountant from the days when they really were accountants. Indeed, when criticisms of accounting trickery were levelled at Merck in the aftermath of scandals at Enron and WorldCom, Mr Gilmartin's rebuttals largely convinced Wall Street sceptics, and were later upheld by the Securities and Exchange Commission.

Unlike controversially well-remunerated rival bosses, such as Jean-Pierre Garnier of GlaxoSmithKline, Mr Gilmartin's more modest package is partly related to performance, via a formula incorporating such things as sales growth relative to rivals. Mr Gilmartin not only resisted the siren call of transformational acquisitions; he even trumpeted the fact, when the market was rewarding his rivals for their enthusiasm for mega-mergers. Nor could you accuse him of an obsession with short-term profit.

Instead, he boasts of being accused of quoting with “irritating frequency” a saying in 1950 by George W. Merck, an early chairman, that “medicine is for the people. It is not for the profits. The profits follow.” This, he says, is shown in Merck's commitment to grow organically through research and development, rather than through acquisitions, and in its industry-leading efforts to distribute at least some of its drugs cheaply to poor-country residents who cannot afford rich-country prices.

Merck's generosity predates Mr Gilmartin. In 1987 it started to donate Mectizan, a drug used to treat 30m people every year for river blindness across sub-Saharan Africa—which has now cost the firm over $1 billion. But Merck's name, with that of its big-pharma rivals, was sullied when it became involved in a lawsuit against the South African government's attempts to weaken patent law to help in its fight against AIDS. Just in time, Mr Gilmartin realised that this, though “legally correct”, from the perspective of public relations and enlightened self-interest, was “a mistake”—and he brokered a deal between drug firms and the government that led to the suit being dropped in 2001.

Thus inspired, there has been no stopping Mr Gilmartin. Merck has donated $100m worth of vaccines against such scourges as hepatitis to the Global Alliance for Vaccines and Immunisation. More recently, it committed $50m to Botswana, working with the Gates Foundation and the government to build a better health-care delivery system to combat AIDS. The firm has spent years trying to develop an AIDS vaccine. It has also adopted a policy of differential pricing for some drugs. It sells Crixivan, an AIDS drug, for $600 per patient per year in the poorest countries, roughly an 85% discount from the average price in America.

As a result, Mr Gilmartin has won Merck the admiration of advocates of “corporate social responsibility”—although it is not a phrase with which he seems entirely comfortable. A new “ethical ranking” of America's 25 biggest firms, by Management & Excellence, a consultancy, gives Merck one of only two triple-A ratings—which, if nothing else, underscores the firm's healthy standing with the touchy-feely brigade.

Does it pay to be good?

It would be nice to believe, as the late George W. Merck did and Mr Gilmartin seems to, that a firm can do well by doing good. But is it true? Many firms in the drug industry see Mr Gilmartin's strategies as potentially destructive of shareholder value. Failure to protect brands in poor countries may reduce incentives to innovate. Not so, says Mr Gilmartin, noting that, as long as there are decent profits to be made in rich countries, innovation will continue as fast as it can.

But surely a differential pricing strategy threatens to undermine profits in rich countries, if cheaper drugs leak back from poor countries? Again, Mr Gilmartin thinks the fears are overdone, not least because Merck is careful to distinguish the drugs intended for different markets and keeps a close eye on how the drugs are delivered, to ensure they are not misappropriated by export-minded entrepreneurs before they get to patients. Mr Gilmartin also believes that virtue is rewarded by making the firm attractive as a place to work, enabling it to attract the best scientific talent—such as Peter Kim, its promising new head of R&D, lured from the Massachusetts Institute of Technology.

Yet the bottom line is that Wall Street remains unimpressed. Despite a recent rally, Merck's shares have hardly set the world on fire in recent years, even compared with its competitors. In part this is due to the expiry of some crucial patents. But analysts complain that the firm's commitment to pure science has not led to enough good new drugs (although results presented earlier this week by the company suggest there could be as many as 11 new products out of its pipeline by 2006). They want the firm to make more use of licensing deals with other innovative firms. Some even fear that, whatever the late George W. Merck said about how “profits follow” from making medicine available, Mr Gilmartin's focus on doing good has deflected his attention from the goal of doing well. That would not make him a good role-model for bosses, celebrity or otherwise.

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Corporate social responsibility

Lots of it about

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Corbis

History shows the Anglo-Saxon corporation to be far from heartless

ON DECEMBER 10th, George Bush attended the opening ceremony of "Business Strengthening America" (BSA), an organisation whose aim is "to encourage civic engagement and volunteer service in corporate America". Also present were Don Evans, secretary of commerce, Steve Case, chairman of AOL Time Warner, and Jeffrey Swartz, boss of Timberland, a socially responsible shoe maker.

The high-profile occasion is the first fruit of a meeting held at the White House in June, when the president called for greater corporate involvement in the community. The collapse of Enron and the rash of subsequent scandals have made all of American business seem like an ogre who leaves entire communities high and dry when things go wrong. BSA wants to change this image by helping businesses to "do well by doing good".

This issue of corporate social responsibility (CSR)—how responsible companies should be to those other than their own shareholders—is arousing heated debate, and not just in America. In Europe and Asia, the battle is often said to be between Anglo-Saxon shareholder capitalism, which says that companies should pursue exclusively the interests of their shareholders, and stakeholder capitalism, which acknowledges that companies are also responsible to their workers and local communities—often by having representatives from both on their boards.

The debate has also become entangled with that about globalisation. One of the main charges that the anti-globalisation brigade hurls at multinationals is that they behave irresponsibly all round the world. They exploit third-world workers, trash the environment and challenge democratically elected governments.

In all these tussles, the left demands that more rules be applied to companies, to make them more responsible. The right fires back that governments already subcontract far too much of their social policy to companies, using them as vehicles to limit working hours (in France), to promote racial harmony (in America) and to clean up the environment (just about everywhere on the planet).

This debate does not lack hot air; but it does lack a sense of history. How irresponsible have Anglo-Saxon companies been in the past?

Start in the East Indies

In practical terms, all companies—even Anglo-Saxon ones—have to secure what Leslie Hannah, an economic historian who is now dean of Ashridge Management College in England, calls “a franchise from society”. Sometimes that franchise entails specific obligations: Mr Hannah points to ICI's altruistic work designing nuclear bombs for the British government during the second world war.

The franchise comes partly from consumers and other pressure groups in the private sector. As long ago as the 1790s, Elizabeth Heyrick led a consumer boycott, urging her fellow citizens in Leicester to stop buying “blood-stained” sugar from the West Indies. The East India Company was eventually forced to obtain its sugar from slaveless producers in Bengal. Nowadays, the influence of non-governmental organisations, such as Greenpeace, on corporate policy is far more pervasive.

However, the most enduring force on corporate behaviour has been the state. The mantra that, at some ideal moment in the misty past, Anglo-Saxon companies had nothing to do with the state is codswallop. Far from being alien to government, companies are a product of it: it was from the state that they derived the privilege of limited liability. Until the 19th century, monarchs generally gave companies a “charter” only if they were nominally pursuing the public good (which could mean anything from building canals in Lancashire to colonising India).

Indeed, it was the fact that companies were creatures of the state that turned Adam Smith against them. Most pioneers of the industrial revolution also regarded limited liability as a charter for rogues. The Victorians changed the perception, largely because a business arose that needed far more capital than mere partnerships could provide: the railways. By 1862, Britain had made it possible to set up a company, without parliamentary permission, for just about any purpose. The rest of the world's big countries—France, Germany, Japan and the United States—soon followed suit.

There was, in theory, a clear split among them, however. In Britain and America, the new joint-stock companies were freed from any obligation other than to obey the law and pursue profits. By contrast, in continental Europe (and later in Japan), companies were asked to pursue the interests of their various stakeholders, notably those of the state. But how different in practice were the Anglo-Saxons?

In Britain, most of the early companies—with the notable exception of the railways—had few dealings with the government. The gospel of free trade meant that there were no tariffs to go to London to lobby for. Corporate independence was even more noticeable in America. Businessmen created modern organisations that spanned the continent more quickly than the government did. In 1891 the Pennsylvania Railroad employed 110,000 people, three times the combined force of the country's army, navy and marines. Such monoliths could lay down their own rules.

But this freedom was never absolute. Unions sprang up to defend workers' rights, and “muckraking” journalists detailed corporate abuses. “I believe in corporations,” said Teddy Roosevelt. “They are indispensable instruments of our modern civilisation; but I believe that they should be so supervised and so regulated that they shall act for the interests of the community as a whole.” The supervision did not just take the form of antitrust legislation (which eventually broke up Standard Oil in 1911), but also of rules on health, safety, working hours and so on.

The Wall Street crash, a succession of corporate scandals and the Great Depression shifted public opinion on both sides of the Atlantic even more in favour of restricting the corporate franchise. America brought trucking, airlines and interstate gas and electric utilities under government control. In Britain, there was widespread horror at the inability of private coal companies to provide showers for their workers: they too were soon taken into public ownership.

This tightening continued into the post-war period. The British government nationalised the commanding heights of industry and, as late as 1967, John Kenneth Galbraith was arguing that America was run by an oligopolistic industrial state. Since the 1980s, however, the pendulum has swung the other way. Anglo-Saxon business has become more independent, for which it has to thank not only liberalising politicians such as Margaret Thatcher and Ronald Reagan, but also a new generation of more aggressive and numerous shareholders, who have demanded that companies be run in their interests.

This is the *capitalisme sauvage* that so upsets the French, in particular. But even today, Anglo-Saxon companies are more constrained than many critics suppose. The past two decades have seen a huge surge in social regulation, as various “stakeholders” have organised themselves into powerful pressure groups. In the late 1980s, for example, more than half of America's state legislatures adopted “other constituency” statutes that allow directors to consider the interests of all their stakeholders, not just shareholders. Connecticut even passed a law requiring them to do this.

Good deeds aplenty

There is one clear lesson from this history. Anglo-Saxon companies have often willingly taken on social obligations without the prompting of government. Mr Hannah cites the traditions of the Quaker families who founded so many of Britain's banks and confectionery firms: they had regular meetings where they were expected to justify to their peers the good that their businesses were doing.

Nor has corporate social responsibility been the preserve only of a few do-gooders inspired by religion. The notorious “robber barons” built much of America's educational and health infrastructure. Company towns, such as Pullman, were constructed, the argument being that well-housed, well-educated workers would be more productive than their feckless, slum-dwelling contemporaries.

Companies introduced pensions and health-care benefits long before governments told them to do so. Procter & Gamble pioneered disability and retirement pensions (in 1915), the eight-hour day (in 1918) and, most important of all, guaranteed work for at least 48 weeks a year (in the 1920s). Henry Ford became a cult figure by paying his workers $5 an hour—twice the market rate. Henry Heinz paid for education in citizenship for his employees, and Tom Watson's IBM gave its workers everything from subsidised education to country-club membership.

Critics tend to dismiss all this as window-dressing. But Richard Tedlow, an historian at Harvard Business School, argues that they confuse the habits of capital markets with those of companies. Capital markets may be ruthless in pursuing short-term results. Corporations, he says, have always tended to be more long-termist.

Alfred Chandler, the doyen of business historians, points out that the history of American capitalism has largely been the history of managerial rather than shareholder capitalism. For much of the 20th century, companies were run by professional managers; until the 1980s, institutional investors seldom made their presence felt. Today, more bosses are sacked, but managers still largely ignore shareholders. In Delaware, where around half of America's big companies are headquartered, the corporate code is more sympathetic to managers than it is to owners.

This has often made socially responsible behaviour easier. Rosabeth Moss Kanter, a professor at Harvard Business School, talks about most parts of the Anglo-Saxon world having a “CEO club” that successful businessmen are desperate to join. The price of admission is doing your bit for society.

But this cynical approach can be taken only so far. Most companies try to do good because they genuinely believe that taking care of their workers and others in society is in the long-term interests of their shareholders. The most successful Anglo-Saxon companies have consistently eschewed short-termism in favour of “building to last”. For more than half a century, Silicon Valley's pioneering company, Hewlett-Packard, has been arguing that profit is not the main point of its business.

There are two reasons why acting responsibly is in shareholders' interests.

• The first is that it builds trust, and trust gives companies the benefit of the doubt when dealing with customers, workers and even regulators. It allows them to weather storms, such as lay-offs or a product that does not work.

• The second is the edge it gives in attracting good employees and customers. Southwest Airlines is one of the most considerate employers in its industry: it was the only American airline not to lay people off after September 11th. Last year, the company received 120,000 applicants for 3,000 jobs, and it was the only sizeable American airline to make a profit.

Leave well alone

Since Anglo-Saxon companies have tended to be reasonably responsible in the past, without any government bullying, there must a good *a priori* case for leaving them alone. The case is strengthened by the fact that companies are most effective as social volunteers when they are doing things that are close to their shareholders' interests. Those interests clearly differ: oil companies tend to emphasise building local infrastructure; Avon, which sells products largely to women, is one of the world's biggest supporters of breast-cancer research. The idea of imposing one-size-fits-all laws is a mistake, for it undermines

enthusiasm and prevents companies from exploiting their distinctive strengths. Why should all multinationals have to sign up to the same sort of mission statements that Shell and BP love so much?

In a sense, the corporate social responsibility movement has got it all the wrong way round. It tends to look for social goods—better housing, better schools, a cleaner environment—and then seek ways to force companies to provide them. It might do better to look at the things that the private sector does not deliver, and then get governments to fill the gaps. Left to themselves, companies will do more good than people give them credit for. But they are not here to build a fairer society. That is the job of government.

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About sponsorship

The Securities and Exchange Commission

Too late to matter

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AP

Time is running out for William Donaldson's tenure at the Securities and Exchange Commission—even before his appointment has been confirmed

Get article background

UNDERSCORING the urgency of presenting a competent new economics team, George Bush this week nominated William Donaldson as the next head of the Securities and Exchange Commission (SEC), a month after the luckless Harvey Pitt had tendered his resignation. It is also possible that the commission will move imminently to announce a replacement for William Webster, Mr Pitt's controversial choice to be head of the new Public Company Accounting Oversight Board, the agency created to bring credibility back to America's financial reports.

Headline-grabbing momentum for the president, then. Even so, congressional hearings to approve Mr Donaldson's appointment are unlikely to begin before the new year. Meanwhile, in the offing is a comprehensive settlement between Wall Street's investment banks and a gaggle of regulators—the firms' penance for the sins of the bull market. It is odd indeed that the most important ruling in years for financial firms is being made as the SEC drifts, allowing the running to be made by a zealous local attorney-general, Eliot Spitzer of New York state. A good first step for Mr Donaldson would be to call a halt to the negotiations until his own position is confirmed. He might also want to signal that he should be in place before a new head for the accounting oversight board is presented. Confidence in financial markets cannot, after all, be rebuilt if the regulators aren't even in place.

Instead, at a brief ceremony at the White House on December 10th, Mr Donaldson was all discretion, beyond voicing the usual platitudes about the need to rebuild investor confidence. Perhaps this approach has virtues, given the rancour inspired by Mr Pitt. Yet the broad outlines of Mr Spitzer's reregulation—emerging from leaks and from the attorney-general's own public comments, for he has become something of a celebrity speaker—now deserve attention, and comment.

There will be fines, perhaps $1 billion in all, and a ban on shares in initial public offerings being granted to executives of firms with which banks do business (a seedy practice known as spinning). Most striking, the biggest investment banks will have to pay money to fund the creation of independent research for their retail investors, so that they can compare and contrast it with the research the banks themselves are putting out. All told, it is a remarkable intervention by the state into the workings of the financial markets, and it will not certainly provide the kind of consumer protection desired. Yet the share prices of

Morgan Stanley, Goldman Sachs and Citigroup have rallied strongly since the prospects of a settlement have improved.

Mr Bush's choice of Mr Donaldson may be making the best of a difficult hand. Several who were sounded out for their interest in the chairmanship were appalled at the prospect. The ideal candidate needed to be intimately familiar with Wall Street, yet untainted by its recent excesses. In other words, he should not have had a significant job for years. Here, Mr Donaldson has the advantage of having stepped down in 1973 from an active role at Donaldson, Lufkin & Jenrette, the firm he founded with two friends in the 1950s. His most recent time on Wall Street was as chairman of the New York Stock Exchange (NYSE) between 1990 and 1995.

Mr Donaldson's time at the NYSE is not thought of as memorable—but that may be reason to be optimistic about his future stewardship of the commission. For the NYSE he joined had its own crises. Seat prices had fallen from $1.2m in 1987 to $250,000. Sharp divisions had grown among member firms. An increasing number of rival markets threatened the NYSE's dominance, including ones promoted by some of the exchange's most powerful members.

Mr Donaldson's early years at the exchange also coincided with the Gulf war and with recession. All the same, by the time he left, there was a sense of calm. Transaction prices, even for small investors, were among the lowest in the world. Seat prices had largely recovered. And the transition was smooth for his successor, who was then chief executive of the exchange, Richard Grasso. When Mr Donaldson walked out of the NYSE, he carried with him the goodwill of Wall Street, and a certain respect on Capitol Hill.

For the chairman of the SEC, of course, friends are not always a blessing. He has to be everyone's critic; in Mr Donaldson's case, he needs, in particular, to be a critic of those who paid his salary at the NYSE. Arthur Levitt, a former head of another exchange who was chairman of the commission under Bill Clinton, played the part well, and suffered the anger of many on Wall Street. Mr Pitt, a securities lawyer, was never able to lay to rest the perception that he kept his loyalty to his former investment-banking clients. Mr Donaldson's success will hinge on how quickly he can establish that he is his own man.

Mr Donaldson will presumably be able to influence the choice of the new head of the accounting oversight board, even if his nomination has yet to be heard in the Senate. How Mr Donaldson responds will be watched closely, given the experience of Mr Pitt, who lost his chairmanship in big part because of his support for Mr Webster, a consummate Washington insider but with little experience in finance.

Mr Donaldson's most important challenge, however, will be to supply the vision for how America's markets are to be transparent and open enough to attract investment. That is the fundamental question raised by all the scandals and all the investigations, and one that cannot satisfactorily be answered privately in a room full of lawyers. It falls to Mr Donaldson not only to lead a public agency, but also to lead that public debate.

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Bank capital adequacy

Basel backlash

Dec 12th 2002
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A modest proposal to replace a mountain of complex regulation

IT'S not too late to call the whole thing off, according to a handful of dissidents in London. The only reason why complex new capital rules for banks, called Basel 2, due to be implemented in 2007, have not been scrapped, they say, is the project's sheer momentum—plus the lack of an alternative.

Now there is one, possibly: a “new general approach” to banks' capital adequacy unveiled this week by Charles Taylor, a Washington, DC, consultant, at a conspiratorial meeting of the Centre for the Study of Financial Innovation, a London think-tank. Mr Taylor's approach would leave the minutiae and complexity of risk management to the banks themselves, and reduce the regulators' involvement to a single formula. It has the simplicity of Einstein's $e=mc^2$, and concerns banks' record of losses relative to their capital. The better they predict their likely, and even unexpected, losses up to a given threshold, and the more consistent their losses are below that threshold, the less regulatory capital they will need. Regulators would apply their own multiplier for each bank to relate required capital to a bank's status and loss-management performance.

This is a development of a 1997 proposal that banks should “pre-commit” the regulatory capital that they need, with the level adjusted by regulators according to their performance. The objections to that approach were, first, that it would tempt reckless banks to gamble their capital and, second, that regulators would hit banks with capital increases when they were already weak.

Mr Taylor's formula tries to avoid such pitfalls. Whether it succeeds would depend on how regulators fix the multiplier for each bank, and whether they could do that without going as deeply as Basel 2 does into the individual risks that banks run.

The development of Basel 2, for all its faults, has forced banks and their regulators to scrutinise in unprecedented detail banks' credit and operational risks. Whether that detail is the best basis for legislation is the question facing regulators—particularly in Europe, where a new capital regime will have to be written laboriously into EU law. Mr Taylor's lighter approach may be more palatable than that, particularly to the economic and monetary affairs committee of the European Parliament, which has grave worries about the potential effect of Basel 2 on Europe's patchwork of small banks and medium-sized companies.

Pragmatists put the chances of Mr Taylor's multiplier at this stage at close to zero. But it could be a runner to pre-empt Basel 3, which is likely to be mooted some time over the next decade.

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Japanese banks

In a hole, digging deeper

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A curious proposal by one of Japan's biggest banks

Get article background

"SUMITOMO MITSUI has that much energy?" asked Japan's startled finance minister, Masajuro Shiokawa, when told that one of the country's four biggest banks was considering buying a big stake in Aozora Bank, once called Nippon Credit Bank before it was nationalised and sold to a consortium of investors in 2000. Softbank, an Internet investment group with troubles of its own, is looking to sell its 49% stake in the bank.

Why Sumitomo Mitsui—struggling, like other big Japanese banks, to find the funds to write off its bad loans—should want to buy Aozora is unclear. Some say it is to bolster capital: excluding public money and deferred taxes that can count as capital, Sumitomo Mitsui is woefully undercapitalised. Yet buying Aozora is expected to raise Sumitomo Mitsui's capital-adequacy ratio by only half a percentage point.

Except for Aozora's strong regional-banking network, which could perhaps broaden Sumitomo Mitsui's customer base, the point of the deal is elusive. James Fiorillo, at Commerz Securities, thinks that Sumitomo Mitsui would dig itself into a deeper hole by buying Aozora. Many of Aozora's best employees are already thought to have quit. Naoko Nemoto of Standard & Poor's, a credit-rating agency, adds that there would be few synergies from the acquisition.

What is more, Aozora itself probably has many non-performing loans on its books. When it was privatised, it was given an option to hand back bad loans to the government should they lose more than 20% of their value; the option expires next September. Yet it has not often been exercised. An American investment fund, Cerberus, is also interested in Aozora. It would have few qualms about pushing the burden of bad loans on to the taxpayer. Sumitomo Mitsui, on the other hand, would risk a political uproar by exercising the option. Besides, it would have implications for its own bad loans.

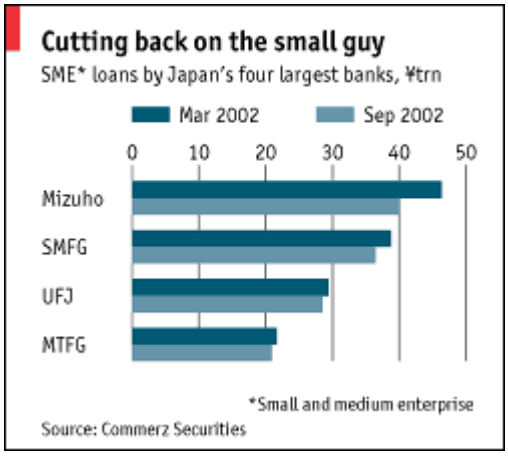
Still, some reckon that a bid could prove a politically astute move for Sumitomo Mitsui. The Financial Services Agency (FSA), Japan's bank regulator, has not dispelled the impression that it is reluctant to see Aozora go to Cerberus, preferring domestic buyers instead. Heizo Takenaka, the FSA's new boss, has also been scaring local banks, by threatening stricter inspections of bad loans and tougher criteria for capital. Banks—and investors—fear that this might even lead to the nationalisation of some big banks. By offering to take on Aozora, Sumitomo Mitsui might be calculating that it is building up political, not financial, capital.

Sumitomo Mitsui is not the only big bank making odd moves. Not long after Mizuho Financial and UFJ Holdings saw their share prices fall below ¥100,000, causing much wringing of hands, they announced fresh plans to restructure their operations. Mizuho unveiled a complex strategy that involves setting up a two-tier holding company next March. By placing its credit-card business and systems firm under the holding company, Mizuho would get handy income to help fill holes made by its banking operations. How else the two-tier structure would improve its business is not clear.

Both Mizuho and UFJ also announced plans to transfer a chunk of bad loans from their banking operations to new entities, set up under their respective holding companies. These would collect loans from dud borrowers, and even attempt to restructure some. Both banks hope to raise capital from foreign investors for the new units, in return for giving them a portion of their business in these distressed assets.

What all these strategies have in common, says Koyo Ozeki at

Merrill Lynch, is that they are aimed at bolstering capital rather than improving core operations. Banks have all but exhausted other options, such as issuing preferred shares to close corporate friends. They are also angering small- and medium-sized businesses, which are important customers, by cutting lending (see chart), so freeing up capital. If the tough reforms promised by Mr Takenaka materialise, even more pressure will be put on banks' profitability.



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Bancassurance

Back to basics?

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Do mergers of banks and insurers make sense?

IT HAS been a horrible year for both banks and insurers. What, then, of the idea of *bancassurance*, when banks and insurers combine? Lured by synergies, economies of scale and higher revenues from cross-selling banking products to insurance customers, and vice versa, many banks and insurers have joined forces over the past five years, notably in Europe. In 1997 Credit Suisse paid $8.8 billion for Winterthur, Switzerland's second-largest insurer (bringing woes, admittedly, since). In 2000 ING of the Netherlands added ReliaStar, an American life insurer, along with the financial-services division of Aetna, an American health insurer, to its European banking, insurance and asset-management stables. Last year Allianz, Germany's insurance giant, bought Dresdner Bank, Germany's second-largest.

Do such *bancassurance* mergers make sense? Henri de Castries, chief executive of AXA, France's biggest insurer, thinks not. Anton van Rossum, who runs Fortis, a Dutch-Belgian group and Europe's oldest practitioner of *bancassurance*, is convinced of its virtues. Mr de Castries and Mr van Rossum both had a tough year at their respective firms, so neither can prove the superiority of their view. Fortis lost money in the first nine months of this year. AXA did better, increasing revenues, but the firm's balance sheet remains anaemic. (Mr de Castries strongly denies that AXA needs to raise new capital.)

Mr van Rossum insists that it helps to be both a bank and an insurer in times of stockmarket turmoil, because, he says, you can compensate for business lost in one branch of retail activity with an increase in another. For example, old-fashioned savings accounts are popular today, while investors stay away from unit-linked life-insurance policies, which invest in equities. *Bancassurance* groups, moreover, worry less about capital than do pure insurers, says Mr van Rossum, because they have more scope to use their capital to generate the best returns.

De Castries and van Rossum, smiling together but disagreeing

Mr de Castries has doubts about whether this combination is so weatherproof. Banking and insurance are very different businesses, he says, and combining the two creates no value. Distributing insurance is only a marginal business for most banks, he says. Mr de Castries believes that strategic alliances between banks and insurers are enough. He admits that *bancassurance* works in countries such as Belgium, where insurance is not sold through agents tied to insurers. Yet one successful Benelux country, he says, does not mean that *bancassurance* works as a general model.

Maybe, but *bancassurance* also succeeds in Spain, where four-fifths of life-insurance policies are sold through banks; even in France, two-thirds of life-insurance policies are sold by banks. Mr de Castries, it

turns out, does not exactly practise what he preaches. AXA recently bought Banque Directe from BNP Paribas, a French bank, and owns a bank in Belgium.

Yet *bancassurance* has certainly not taken off widely as a business model. Banks and insurers remain animals with different risk profiles and dissimilar capital needs. Insurers are greater assumers of risk than banks, and need to be more heavily capitalised. Moreover, the two have different time horizons, with life insurance, in particular, focusing on the long run. *Bancassurance* does not spread the burden of costs much, says Andrew Goodwin at Commerzbank. It can bring some savings in technology, but not in staff.

Louis Jordan at Deloitte Touche Tohmatsu, an accounting firm, believes that European insurers and banks will go their separate ways again in future. There is an American example: Citigroup, America's biggest bank, spun off its insurance arm, Travelers Group, this year. Insurers will increasingly outsource, sell or relocate their activities, particularly those offshore, that are a distraction from their core business, Mr Jordan says; banks, too, will disaggregate and go back to basics.

Some banks and insurers have started to retrench, putting their asset managers up for sale, though mostly to other more optimistic banks. Zurich Financial Services, sold Scudder Investment Managers last year to Deutsche Bank. Commerzbank is trying to sell Jupiter Asset Management; Rothschild sold its asset-management arm to HBOS, a British bank, last week. Next year more banks, insurers and asset managers are likely to disentangle themselves. But the debate between the de Castries and van Rossum camps will roll on for several years to come.

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Sudan's currencies

A dog's dinar

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A currency split in a split country

PLANS to launch a new currency in rebel-held southern Sudan—a place the size of France—look almost sensible. The region has been cut off from the central bank in Khartoum, the capital, by two decades of war. Sudan's national currency, the recently introduced dinar, scarcely penetrates the front line. This leaves southerners using a mish-mash of money: heavily patched Sudanese pounds, the dinar's predecessor; shillings from Uganda and Kenya; Ethiopian birrs; and good old American dollars. But with peace talks to reunite Sudan at an advanced stage, the south's proposed new Sudan pound is stirring trouble.

The rebel Sudan People's Liberation Movement, which controls most of southern Sudan, has already printed 60 tonnes of the new notes, and last week rumour had it they were about to issue them. Khartoum promptly accused the rebels of duplicity: talking peace but trying to keep Sudan split. The rebels say the new currency is perfectly in line with the principle of “one country, two systems”, on which peace is supposed to be built. They argue that, if the Islamist government will not free the central bank from *sharia* (Islamic law, which bans payment of interest), then the Christian and pagan south must have its own central bank—and currency.

Besides jarring the peace talks, a new rebel currency could soon be inflated away, unless it is backed by a central bank of sorts, or pegged to the currency of a friendly neighbour. The colourful new notes could end up just like the tattered old Sudanese pounds already in circulation, changing hands at wildly different rates from village to village.

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London Stock Exchange

Small is beautiful, for now

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Is there a broader plan behind its joint venture with Sweden's OM ?

GIANT steps have been replaced with small. After losing Liffe (London's derivatives exchange) to Euronext in Paris, and after an aborted link with NASDAQ (America's tech-heavy exchange), the London Stock Exchange (LSE) under its chief executive, Clara Furse, has shortened its stride. Ms Furse has launched a series of innovations, such as the introduction of covered warrants in October. On December 9th the LSE announced a new derivatives exchange in a joint venture with OM Gruppen, operator of Stockholm's bourse. Another graceless acronym joins the financial world: EDX London.

In the hope of capturing the off-exchange market for equity derivatives in London, the LSE is paying a fullish price, £18.2m ($28.6m), for a 76% stake in OM London Exchange, OM's derivatives arm in Britain. The plan is to create, with the London Clearing House, a trade-confirmation and clearing service for equity derivatives that are traded over-the-counter—ie, away from an exchange. This means that wholesalers can use OM's own technology rather than phone, fax and e-mail to confirm trades before they are cleared. It is a new service to a large and untapped market, says the LSE. Britain's over-the-counter market for equity derivatives is equivalent to perhaps twice the volume traded on Euronext.liffe, easily London's biggest derivatives market.

Ever since the LSE's failure to acquire Liffe, Ms Furse has been looking for a partner in derivatives. On-exchange derivatives trading in Europe has grown by close to 20% over the past four years, with off-exchange trading growing even faster, says Huw van Steenis at Morgan Stanley. Meanwhile, normal share-trading volumes are falling at most European stock exchanges. Trades at Deutsche Börse, for instance, are down by nearly one-sixth compared with 2001.

Will the LSE try to fight Euronext.liffe head on? That exchange does not handle over-the-counter equity derivatives. Manos Costello at Merrill Lynch does not think the LSE will move any of EDX's business on-exchange. Others are not so sure that the LSE's only goal is to capture the off-exchange market for equity derivatives in London. As if to confirm their suspicions, Phil Bruce, an executive at the LSE, says that the exchange will expand its order-book services once it has got the clearing facility working with the London Clearing House. In other words, EDX London could indeed enter into direct competition with Euronext.liffe.

Even so, when it gets up and running next spring, EDX will be David to the two Goliaths, Euronext.liffe and Eurex, the derivatives arm of Deutsche Börse. As it is, EDX accounts for just one-quarter of OM's overall derivatives business, which in turn is a fraction of the volume of either Euronext.liffe or Eurex. OM London trades 60,000 derivatives contracts a day, compared with 4.5m at Eurex, for instance.

Yet the new derivatives exchange might conceivably help to strengthen the LSE in the broader fight among the three dominant stock exchanges in Europe. At present, the stockmarket value of Euronext is about $2.6 billion, compared with the LSE's value of $1.5 billion. In a hypothetical merger with Euronext or Deutsche Börse, the LSE would probably have to put up with being junior partner. If Ms Furse is successful with her baby-step strategy in bulking up the exchange, the LSE might again become the prospective leading partner in any European merger.

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Terrorist finance

The needle in the haystack

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Banks have little serious hope of detecting terrorist money

DAVID AUFHAUSER, general counsel at America's Treasury, unnerved some of the world's top bankers recently. With 24-hour aerial surveillance, he said, America can detect, home in on and bomb terrorists on the basis of a clue as tiny as a tyre-track in a desert. Mr Aufhauser told his audience of a dozen international banks, including Citigroup, HSBC and UBS, that they should use the same sort of technology on their customers.

No banker present challenged Mr Aufhauser, although some balked at the notion of treating all customers as potential criminals. Most banks these days do not voice such views openly for fear of being accused of not doing their bit to cut off al-Qaeda's sources of money. In private, however, bankers with long experience of financial crime say that many of the rules introduced since September 11th to keep terrorists out of the mainstream financial system will not achieve their aim. And in the end, customers will pay more for banking, because of the high cost of making detailed checks.

The heart of the problem, from the banks' point of view, is that the vast majority of financial transactions look (and are) so routine and prosaic. America's Federal Bureau of Investigation recently tried to design a profile of how terrorists might use a bank. It failed to come up with any more unusual activity than placing a big deposit and then withdrawing cash in a series of small amounts. That profile, the anti-money-laundering boss at a big American bank points out, fits a quarter of banks' customers.

Although banks have come up with their own ideas about what constitutes suspicious behaviour, explanations are often perfectly plausible. A teller at a British bank recently reported to the authorities a business customer who was making big cash deposits every day. The customer turned out to be the owner of a fish-and-chip shop.

Before September 11th, America lagged Europe in its rules against money-laundering. With the Patriot Act, passed in October last year, America has caught up, and in some areas has gone beyond Europe. Still, the act was not aimed directly at terrorist finance, banks say; rather, it contains mostly Clinton-era measures that had been rejected at the time because of privacy concerns. Besides, terrorists often use clean money from legitimate sources. The sums they need are tiny compared with the amounts laundered from drug trafficking. The act gives no guidance to banks on how to detect whether the money they handle might be used for terrorism in the future—apart from rehearsing the old mantra about knowing your customer.

Many banks are investing heavily in technology to detect suspicious behaviour. Systems from companies such as Searchspace and Mantas establish “normal” patterns, then highlight transactions that depart from the norm. Yet there is no guarantee that the systems will spot crooks rather than throw up a welter of false leads. Andrew Clark, head of anti-money-laundering at PricewaterhouseCoopers in London, says that such artificial intelligence will work better in retail than in wholesale banking, which tends to have less-standardised transactions.

The big banks complain that much is expected of them, but they get little co-operation from law enforcement or intelligence agencies. “We have no ability to find terrorist finances unless we are given names,” says the anti-money-laundering head at a big American bank. He wants intelligence services to share information. Where this might endanger sources, he suggests, bank staff could be given security clearance—as staff at companies that make weapons for the government are.

The cost of implementing new measures is likely to be high, especially for smaller banks. America's Treasury and Britain's Financial Services Authority are working on estimates. Yet the implications go beyond the bottom line. Banks in Britain say that more rigorous criteria for opening accounts frustrates another government effort, to bring the so-called socially excluded into the banking system. And in Britain, one bank boss fears that his employees may simply focus their suspicions on customers of Arab origin.

Last year, banks were alarmed that politicians might make them carry out checks not only on correspondent banks—other banks which they use for payments in places where they do not have branches of their own—but also on their correspondent banks' customers. Happily, that idea has been overtaken by an approach that encourages staff in the use of common sense rather than the slavish application of rules. A British bank, for instance, might rely on the due diligence of a correspondent bank in France, but it would probably inquire further about the client of a correspondent bank in Russia.

In future, banks hope, they will be allowed to use this so-called risk-based approach for their other efforts to combat terrorist financing and money-laundering. Does it make sense, they ask, to impose the same know-your-customer demands on a grandmother who has banked with them for 50 years as on a new private-banking client from Belize? Carol Sergeant, who oversees money-laundering issues at the Financial Services Authority, says that she strongly supports a risk-based approach and will push it internationally. Until then, whoever you are, your bank is watching you.

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Economics focus

Re-engineering retirement

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Fixed retirement ages make no sense for ageing populations

A SPECTRE haunts finance ministers in the world's rich countries. Looming ever closer is the retirement of the big baby-boom generation born after the second world war. In France, where the retirement age is 60, the demographics start to turn sour as early as 2006. In most other countries, with a retirement age of 65, the date of reckoning is 2011. As the outlook deteriorates, so too will these countries' public finances. Fewer workers will pay contributions into pay-as-you-go state pension systems; more people will be drawing a pension from them.

The shock to state pension systems is not caused only by past fluctuations in fertility—the ageing of the baby-boomers, as they become pensioners, and their replacement by a smaller generation of younger workers. It also arises from the rapid advance in life expectancy at older ages. Although naturally welcome, this is extremely costly, so long as retirement ages remain fixed. Company pension plans, for example, have been undermined not only by falling stock prices in the bear market, but also by rising liabilities as a result of increased longevity.

As if this were not enough, the effective retirement age (a weighted average of the ages when people actually withdraw from work) is often a lot lower than the official retirement age. For example, the effective retirement age for men in Germany is 60.5, whereas the official age is 65. Only half of 55-64-year-olds in the OECD group of rich countries are in work, compared with three-quarters of 25-54-year-olds. Only 39% of 55-64-year-olds in the European Union are still in work.

Early retirement compounds the effect of population ageing, since it increases the number of pensioners and cuts the number of productive workers. Recourse to state welfare increases. Meanwhile, the tax base is whittled away. In 1998 the OECD said that the adverse impact of early retirement on future living standards could be as large as that of population ageing itself.

That message was intended to spur reform of the various incentives in pension and welfare systems that promote early retirement. So how have governments been doing? In a new report*, the OECD says that, in general, state pension systems do not encourage retirement before the age of 60. But in many countries they do create significant incentives for people to retire in their early 60s. And there are other exit routes into early retirement. For example, people in their late 50s may draw generous benefits through special unemployment schemes. Disability benefits offer another exit route, with take-up often reflecting not poor health but incentives to retire early.

Even if the tide of early retirement can be stemmed, which seems improbable on the basis of the evidence in the report, there are other pressures. Projections of age-related spending for a group of OECD countries show that total spending on old-age pensions, early retirement programmes, and health and long-term care, now 15% of GDP, will rise to 22% of GDP by 2050. If life expectancy rises faster than these forecasts assume, the eventual bill could be higher.

Stemming the tide of early retirement, even though it will not be easy, is too modest a goal. In an ageing world, the ambition has to be to encourage later retirement. Indeed, the whole idea of retirement at a pre-fixed age needs to be put out to grass. This vision of an end-chapter to people's lives was born when manual labour was the norm and life in retirement was much shorter. Now most people work in jobs in which physical fitness is no longer paramount, and they can expect to live for nearly 20 years after the age of 65. Why should people living longer, healthier lives also feel they are automatically entitled to spend less time working and ever more time in retirement?

Population ageing poses an economic problem only because the normal retirement age for state pension benefits has become ossified. Politicians know that they raise it at their peril, so any increases are small, and delayed as long as possible. What is needed is an automatic way of adjusting retirement to rising life expectancy. The solution is to get rid of the idea of a normal retirement age and to link state pension benefits explicitly to life expectancy, so that they retain their value only if taken later rather than at the current retirement age. This sends a clear message: save more if you want to retire earlier, or work longer.

Define and fall

A response to population ageing also requires a rebalancing of pensions away from defined benefits, where the pension provider promises a given pension at a given age, towards defined contributions, in which pensions depend on the amount saved and the investment returns it generates. The case against defined-benefit pensions is that they encourage people to leave work at the earliest eligible age. The case in favour of defined-contribution pensions is that they encourage later retirement, since every extra year worked increases the pot of pension money. Defined-contribution pension plans are genuinely funded, but the approach can be extended to state pay-as-you-go schemes, by creating “notional” accounts. This concept, pioneered in Sweden in the 1990s, has been adopted by several other countries, including Latvia and Poland.

Preparing ageing societies for a new age of longer life will take more than remodelling pension systems. If older people are to work longer, they need to retrain and to update their skills and expertise for longer. Lifelong education should be turned from a political slogan into a reality. And employers need to think hard about providing new, more flexible forms of employment for older workers. More than anything, a leap of the imagination is needed to meet the challenge of population ageing.

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* “Increasing Employment: the Role of Later Retirement”, OECD Economic Outlook No 72, forthcoming

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Chinese biotechnology

Biotech's yin and yang

Dec 12th 2002 | BEIJING, HONG KONG AND SHANGHAI
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EPA

China's biotechnology industry is growing fast, but faces several challenges

IN A vast room in one of Beijing's new industrial parks, legions of white-coated workers mill around machines, pushing samples through a well-oiled assembly line. One wall is adorned with a banner reading “The first step of the great long march”. The original Long March, in the 1930s, is fabled in Chinese communism. This time round a more commercial revolution is in the works.

The factory is not turning out television sets or low-cost clothing, but information: 50m units of genetic sequence a day. It is part of the Beijing Genomics Institute. The institute's industrial-scale sequencing operations played a key role in the international Human Genome Project, making China the only country in the developing world to have joined in.

Today, China's economy may be booming on the back of manufacturing. But the government wants future growth to come more from high technology and knowledge-based industries. So, between 1996 and 2000, the central government invested over 1.5 billion yuan ($180m) in biotechnology, as part of its main programme to kickstart the sector. Between 2000 and 2005, it plans to invest another 5 billion yuan. As a result, reckons the Boston Consulting Group, biotechnology is flowering in 300 publicly funded laboratories and around 50 start-up companies, mainly in and around Beijing, Shanghai and Shenzhen. The science ministry claims that as many as 20,000 researchers work in the life sciences in China.

This is small beer compared with the $15.7 billion invested in research and development last year alone by America's biotechnology industry, which employs 191,000 people. But the speed with which China's industry is growing provokes both wonder and anxiety in the outside world. Some worry that a lack of public debate over biotechnology, and different philosophical traditions, mean that China will head off in directions that are morally unacceptable in the West. Francis Fukuyama, an American political scientist, predicts in *The World in 2003* (a sister publication of *The Economist*) that next year “the Chinese will announce the successful cloning of human embryos, causing moral mayhem in the United States and Europe”.

The science ministry claims that as many as 20,000 researchers work in the life sciences in China

Those at the forefront of Chinese biotechnology greet such suggestions with a mixture of amusement and frustration. For the forward march of Chinese biotech is balanced by several opposing forces, including a lack of some of the basic building-blocks of a modern, knowledge-driven industry, ever-shifting regulation, particularly for genetically modified (GM) crops, and the first stirrings of protest by activist groups. This balance of opposites, the yin and the yang, is as familiar a feature of the country's modern technological development as it is of ancient Chinese philosophy. Only if it can surmount these challenges

will China's biotech industry be able to rival its more established peers in Europe and America—and even then it is likely to take a decade.

Limits to growth

Step into the dispensary of one of Beijing's top hospitals, and you will find many of the fruits of biotechnology, such as genetically engineered insulin to treat diabetes or interferon-alpha to fight cancer. In fact, there are now roughly 20 genetically engineered medicines approved for sale in China, earning a tidy 7.6 billion yuan in 2000. Yet although they were made in China, such products are little more than high-tech knock-offs of rich-country inventions, introduced when China had little interest in intellectual-property rights.

Between 1966 and 1976, the Cultural Revolution did its best to erase all forms of scientific innovation in China. Wang Hongguang, director of the National Centre for Biotechnology Development, admits that originality is still a problem for many of China's scientists. He hopes the return of some of the 20,000 Chinese researchers now working abroad will add a spark of creativity. Last month, Beijing announced a recruitment drive to attract 200 scientists from abroad with the promise of western-style salaries.

“Originality is still a problem for many of China's scientists”

There are already several bright spots in Chinese biotechnology, often centred on returning scientists. One such is Yang Huanming, who trained in Europe and America before returning to start the Beijing Genomics Institute, which he now directs, in 1999. As well as leading China's contribution to the human genome sequence and working with Danish partners on the pig genome, this week the institute announced completion of a detailed map of the rice genome. It is also involved in the International HapMap Project, a five-country initiative launched in October, to follow up the Human Genome Project with a large-scale study of human genetic variation and its relation to disease.

Similarly, the National Engineering Research Centre for Beijing Biochip Technology is headed by Cheng Jing, an engineer and molecular biologist trained in Britain and America. Dr Cheng is one of China's most entrepreneurial academics, having already spun out some of the centre's technology to Chinese and American start-ups. He now has two diagnostic chips, for infectious disease and tissue transplantation, in trials at Beijing hospitals, and is spearheading a drive to link most of China's biochip expertise under one roof in a Beijing science park next year.

Another hotspot is the Chinese National Human Genome Centre in Shanghai. Here, the focus is on studying the genetics of diseases that particularly afflict the Chinese population, such as hepatocellular carcinoma, a form of liver cancer.

China is beginning to fortify traditional Chinese medicine with a dose of biotech as well. In Hong Kong, the Biotechnology Research Institute is screening molecules isolated from traditional Chinese remedies to see if they have any effect on receptors known to be involved in neurodegenerative disease, a technique that is common in western-style drug discovery. The Shanghai Traditional Chinese Medicine Innovation Centre has been working with PhytoCeutica, an American biotechnology firm, to create a database of 9,000 traditional herbs and 150,000 recipes.

China is beginning to fortify traditional Chinese medicine with a dose of biotech as well

Stem-cell research is in the works at a handful of centres. Most of China's stem-cell scientists are focused on adult cells, and half a dozen stem-cell banks have already sprung up. But some researchers are working in the more controversial area of embryonic stem cells. Among them is Sheng Huizhen, at Shanghai Second Medical University, who is trying to generate stem cells by transferring nuclei from human skin cells into rabbit eggs.

Dr Sheng's experiments are strictly academic; she wants to understand better the early stages of cellular reprogramming, work that requires thousands of eggs that are unavailable from human sources. After more than a decade at America's National Institutes of Health, she decided to return to China, as increasing restrictions made this line of research difficult. These are interesting times indeed, with academics returning to China for the intellectual freedom they cannot find in the West.

For all these scientific strengths, the expansion of Chinese biotechnology is held back by several problems. One is funding. Biotechnology is not cheap: long

At the moment,

development times and scientific uncertainty mean that it takes lots of money to develop a successful product. At the moment, most Chinese biotechnology is bankrolled by the government, although private money is beginning to trickle in.

most Chinese biotechnology is bankrolled by the government

On the whole, biotech entrepreneurs such as Dr Cheng would rather have private money than deal with the strings that inevitably come with public funds. So far, private investors in China are far less sophisticated than their foreign counterparts. Zhao Guoping, director of Shanghai's genomics centre, has seen plenty of millionaires beat a path to his door, only to turn back when they hear how risky biotechnology can be. Some investors from Taiwan, Singapore and Hong Kong have taken the plunge. But venture-capital groups from Europe and America are holding off until they can be assured of a way to recoup their investment, preferably by floating any resultant company on the stockmarket, or selling it to a larger firm.

A second problem is management. As in the early days of European biotech, China's emerging industry lacks people who combine scientific nous with good business sense. Another shortcoming is intellectual-property protection. Although China moved last year to strengthen its patent laws for drugs and other biotech products, it is still a hard, expensive slog to get a patent—and even harder to exercise it, thanks to weak enforcement mechanisms.

Lastly, there is the question of regulation. China's patchy record in such bioethical minefields as abortion and organ donation leads many in the West to fear the worst when they hear that the country is branching into genetic engineering or high-tech reproduction. But Ole Doering, a bioethicist at Bochum University in Germany, argues that China's move into biotechnology has been accompanied by the introduction of a modern bioethical framework. For example, the Chinese government issued a declaration in 1998 explicitly banning reproductive cloning; America is still waiting to pass national legislation. Similarly, China's human-genome projects are governed by strict rules on sample collection and informed consent. Ironically, the only people to get into bioethical hot water recently were visiting gene-hunters from Harvard.

China's patchy record in such bioethical minefields as abortion and organ donation leads many in the West to fear the worst

The central government is now working to establish national guidelines governing stem-cell research. Two proposals have been put forward, both loosely modelled on British regulations, allowing so-called therapeutic cloning. Dr Doering cautions that, even with such laws in place, enforcement and monitoring will also need improvement. In the meantime, Chinese researchers are playing it safe. Li Lingsong, head of the Peking University Stem Cell Research Centre, observes that, if Chinese scientists want to collaborate with foreign research groups, publish in international journals or attract overseas investment, they have to abide by international rules. Practicality, if not morality, will help to keep most scientists in line with international notions of acceptable biological research.

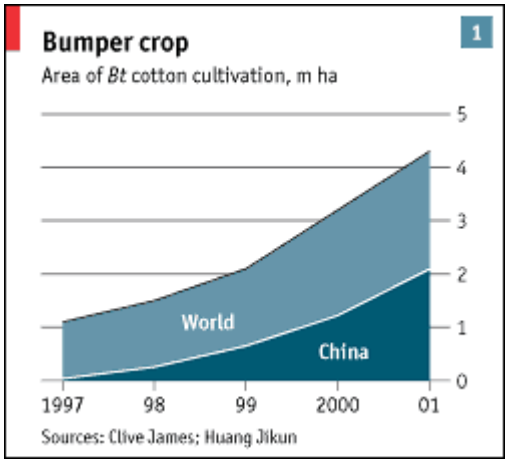
Agricultural revolution

When it comes to the regulation of genetically modified crops, however, things are rather less harmonious. Du Suocheng is a small-scale farmer, raising ducks, corn and cotton in a village near Beijing. Sitting in the concrete shell of his new house, and pointing to his new second-hand truck, Mr Du says he is pleased with the extra income generated by his tiny, 0.3-hectare plot of *Bt* cotton. It is engineered to produce a protein normally found in a bacterium, *Bacillus thuringiensis*, that is lethal to one of China's main agricultural pests, the cotton boll-worm. Although it costs five times more than unmodified cotton seed, Mr Du has found that the expense has been more than offset in lower insecticide costs and higher yields. He plans to expand his *Bt*-cotton field next year; his wife wishes he had done so earlier.

Mr Du's experience is echoed all round China. According to Huang Jikun and Wang Qin Fang, specialists in agricultural policy at the Chinese Academy of Sciences and the Chinese Academy of Agricultural Sciences in Beijing, some 5m Chinese farmers grew *Bt* cotton on 2m hectares last year (see chart 1). A survey by Dr Huang and his colleagues, along with Carl Pray at Rutgers University and Scott Rozelle at the University of California, Davis, in America, showed that farmers growing *Bt* cotton earned roughly $500 more per hectare than those sticking to conventional varieties and used 80% less insecticide. Dr Rozelle says this challenges the view that GM crops have little to offer farmers in developing countries.

Bt cotton is one of four crops—along with late-ripening tomatoes,

virus-resistant sweet peppers and colour-altered petunias—to have been approved for commercial cultivation in China. There are various GM animals and another 60 GM plants at various stages of development, including virus-resistant wheat, moth-resistant poplars and high-tech tomatoes producing hepatitis-B vaccine.

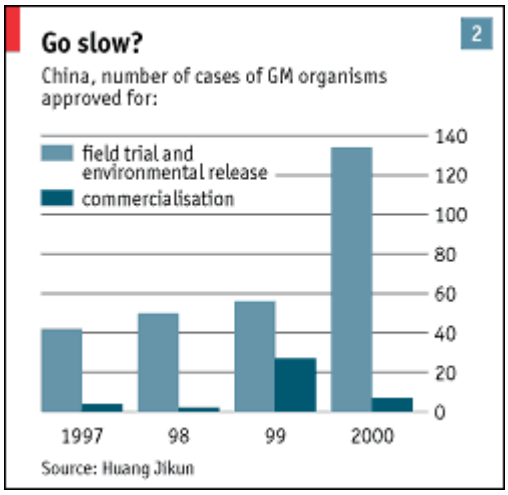


The Chinese government spent 322m yuan on plant-biotechnology research in 2000, sustaining one of the biggest public-sector agricultural-science programmes in the world. One of China's leading centres for plant biotechnology is Huazhong Agricultural University in Wuhan, where Zhang Qifa and his team specialise in rice, the country's main staple crop. Last month, the central government announced that it was giving the university 15m yuan, along with 65m yuan from other government sources and a private developer, to set up a research centre to develop new GM crops.

The government is sending mixed signals

Yet the government is sending mixed signals. Dr Zhang's *Bt* rice has been tested in field trials and with farmers, with positive results. The government's national GM biosafety committee readily gave approval for the rice to be tested outside the laboratory. But for the past two years it has refused to allow it to be sold. Dr Zhang is not the only one waiting for the green light. Although several new varieties of *Bt* cotton have been approved by the committee since 1999, no new GM crops have made it to the market (see chart 2). Even Dr Zhang admits to some confusion. Why would the government invest heavily in research, and push crops into further development with environmental testing, but not allow the results to go on sale?

The official reason is tight new regulations, announced last year, governing food labelling, environmental testing, commercial release, and the import and export of GM crops. The new import rules include requirements for field testing and a food safety evaluation. Some scientists argue that this more cautious stance is justified, given that China's next generation of GM crops includes such staple foods as rice, which could be adopted by billions of people around the world, and whose safety now rests in China's hands.



Others are less complimentary. American companies, such as Monsanto and Cargill, were furious earlier this year when they were given only three months to comply with the new requirements. As a result, America halted almost all its soyabean exports to China, which provide nearly half of China's annual consumption of 25m tonnes. Domestic producers thrived as local soyabean prices rose, at least until stocks ran low in June. The shortage, along with soyabean-talk between George Bush and Jiang Zemin, at least got shipments flowing again until September 2003, while the government processes the exporters' new applications for approval.

In fact it is trade, as much as safety, that seems to have dictated China's new stand on GM crops. The opening-up of China through its World Trade Organisation membership is likely to cause problems for uncompetitive domestic producers. So it is hardly surprising if China threatens to use its biotechnology rules to stave off competition from America.

China has already had a taste of genetic discrimination

But it may be that exports, rather than imports, are the real problem. Chen Zhangliang, president of the Chinese Agricultural University, puts the blame squarely on European fear of GM foods. China has already had a taste of genetic discrimination: it was the first country to commercialise a GM crop, virus-resistant tobacco, in the early 1990s, but quickly abandoned it when American cigarette firms shunned it. More recently, Chinese exporters have run into trouble from Europeans refusing to accept soy sauce containing American GM-beans, and questioning the genetic purity of everything from honey to mushrooms.

Sowing seeds of doubt

Even though the recent soyabean storm received considerable media attention, coverage of GM foods in China is still more muted than in Britain or America. As Dr Huang points out, the “public” debate over biotechnology in China still means exchanges among scientists and government officials, rather than society at large. For the past year, for example, Greenpeace, an environmental group opposed to GM crops, has sent a monthly newsletter to 600 researchers and government officials in mainland China. It is full of such cheery stories on agricultural biotechnology as “Starving Africans leery of GM food”.

Greenpeace has now extended its presence in China from its headquarters in Hong Kong to an office in Beijing. That it is expanding into mainland China is remarkable enough. Even more surprising is that it seems to have the quiet support of at least part of the Chinese government. Its newsletter, for example, is co-sponsored by the Nanjing Institute of Environmental Sciences, which falls under the authority of the State Environmental Protection Administration. Meanwhile, other ministries continue to pour money into transgenic research. Even in as open a society as Britain, it is hard to imagine the government tolerating one of its own research institutes throwing in its lot with Greenpeace and publicly challenging official policy.

Some might applaud this as a sign of China's new culture of freer speech, but others point to more old-fashioned forces at work, namely political in-fighting. The environmental agency wants to exert more control over the regulation of GM crops, which now comes under the umbrella of the agriculture ministry. Some believe it would be a sensible move to hand GM approvals to a ministry not also charged with promoting farm productivity, a conflict of interest in which ecological considerations could lose out.

As the political wrangle continues, Greenpeace is trying to broaden the public debate. A public education drive is planned in Guangzhou and Shanghai early next year. Public awareness is low: preliminary results from a new household survey by Dr Huang, looking at the attitudes of 1,000 consumers in 20 cities, suggest that more than a third have never heard of GM foods. Certainly some devout Taoists and Buddhists hold strong religious objections to transgenic crops, particularly if they have had genes introduced from non-plant species. In broad terms, however, Dr Huang's survey shows that more than half of respondents approve of GM crops, and two-fifths even say yes to genetically modified animals.

Over half of respondents approve of GM crops, and two-fifths even say yes to genetically modified animals

That still leaves roughly a third without strong views either way. They may well prove fertile ground for Greenpeace's seeds of doubt. But Sze Pang Cheung, a Greenpeace campaigner, notes that raising awareness about the potential risks of GM foods will require different tactics in China from those in Europe. Negative advertising may not work in a country unaccustomed to strident debate on scientific issues.

So the striking red “X”, an anti-GM protest symbol that Greenpeace has used in Hong Kong, is unsuitable. Nor are field raids to tear up transgenic plots, so popular in Europe, an option in China. Roughly 70% of the population are farmers, and poor ones at that. Mr Sze says Greenpeace will have to consider their interests too, and the possibility that some GM crops could help to relieve their poverty.

Opponents of biotechnology face a long battle. Unlike Europe, China will surely not turn its back on transgenic crops. Nor will it reject stem-cell research, as America might do. But in the future more such questions—and more caution—seem likely to hamper China's great biotechnological leap forward.

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Books of the year 2002

Seriousness, the new black

Dec 12th 2002
From The Economist print edition

Readers now want books of depth and perspective. We choose the year's best titles

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BIOGRAPHY

Pushkin: A Biography. By T.J. Binyon. *HarperCollins; 731 pages; £30. To be published in America by Knopf in October 2003*

A magnificent life of a great Russian writer and poet told from contemporary documents. It doesn't lazily pretend to put us inside Pushkin's head or explain his writings but sits so close to the man and his times that by the time Pushkin is dead, at 37 after a stupid duel, you almost feel you have lived his life.

Master of the Senate: The Years of Lyndon Johnson. By Robert A. Caro. *Knopf; 1,167 pages; $35. Jonathan Cape; £30*

This is the third volume of Robert Caro's extraordinary life of Lyndon Johnson, and he is not yet even in the White House. Mr Caro's feel for the ways and means of power as exercised in Washington, DC, make this work virtually an American political science course on its own. When finished, the biography will be one of the big books of our day, in every sense.

The Red Count: The Life and Times of Harry Kessler. By Laird M. Easton. *University of California Press; 512 pages; $35 and £24.95*

Aesthete, patron, diplomat, diarist, peace campaigner, defender of the Weimar republic and exile from Nazism, Harry Kessler was a cultivated amateur whose brains and background brought him effortless access to politics, society and intellectual life throughout Europe. He knew everyone, and his diary, a minor masterpiece, is an extraordinary record of his time. Laird Easton's illuminating biography is especially strong on Kessler's family and early childhood, and it strips away many of the clichés about the Weimar years.

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Mapping Lives: The Uses of Biography. Edited by Peter France and William St Clair. *Oxford University Press; 358 pages; $55 and £35*

An impressive collection of essays about the craft of biography, some by well-known practitioners. It ranges across many centuries, countries and languages, and brings into focus various problems that arise in a genre of writing that attracts a wide readership.

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Interesting Times: A Twentieth-Century Life. By Eric Hobsbawn. *Penguin/Allen Lane; 448 pages; £20. To be published in America by Pantheon in August 2003*

A riveting personal memoir, stretching back to Austria and Germany in the interwar period by one of Britain's best known historians, a lifelong communist of an unorthodox and unapologetic kind.

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HISTORY

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Crossroads of Freedom: Antietam, the Battle that Changed the Course of the Civil War. By James M. McPherson. *Oxford University Press; 203 pages; $26 and £17.99*

The battle of Antietam in September 1862 was a turning point when the war between America's North and South could have gone either way. James McPherson describes the battle's contingencies, consequences and might-have-beens with scholarly brilliance and passion.

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Winston Churchill. By John Keegan. *Penguin Lives/Viking Press; 208 pages; $19.95*

Among many recent books on Sir Winston Churchill, John Keegan's stands out as a model of concision and insightfulness about an immense historical personality who helped to shape the world we live in.

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The Victorians. By A.N.Wilson. *Hutchinson; 724 pages; £25. To be published in America by Norton in January 2003*

A vivid portrait of Victorian Britain and Britons by a seasoned biographer and novelist. A.N. Wilson has written the kind of book that turns people on to history. Large, generous, funny without being sly, he manages to capture the spirit of a remarkable and frequently travestied age.

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Bitter Bonds: A Colonial Divorce Drama of the Seventeenth Century. By Leonard Blussé. *Markus Wiener; 260 pages; $38.95*

The story of a rich, half-Japanese beauty in Batavia and her tempestuous divorce from a cold, tough colonial official. Leonard Blussé's new book is the most intriguing work of micro-history since “The Return of Martin Guerre” and, for the light it casts on love and life on a colonial frontier, the most illuminating since “The Cheese and the Worms”.

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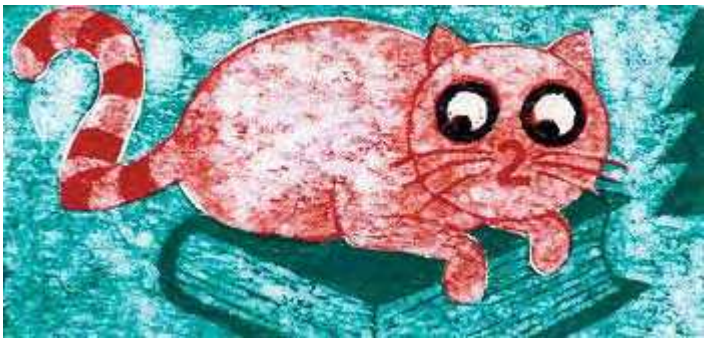
Microcosm: Portrait of a Central European City. By Norman Davies and Roger Moorehouse. *Jonathan Cape; 585 pages; £20*

A history of Wroclaw, or Breslau, that is rich in narrative and detail, and which charts the city's metamorphoses from Polish to German and then, tragically, with the horrendous wartime loss of both its Jewish and German people and cultures, back once more to Polish. It ends, though, with a hopeful postscript that, as the European Union begins to enlarge itself to the east, the city may become truly European once again.



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POLITICS AND CURRENT AFFAIRS

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The Paradox of American Power: Why the World's Only Superpower Can't Go It Alone. By Joseph S. Nye. *Oxford University Press; 222 pages; $26 and £17.99*

A well-argued case, by a former senior defence department official in the Clinton administration, now dean of the John F. Kennedy School of Government at Harvard university, for why the United States should in general be wary, in its own interests, of the temptations of unilateralism.

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The Shield of Achilles: War, Peace and the Course of History. By Philip Bobbitt. *Knopf; 976 pages; $40. Penguin/Allen Lane; £20*

Hiding in this long-winded and digressive book are some important thoughts about the changing nature of warfare and the state. Philip Bobbitt's rough message, well received in President Bush's Washington, is that in a chaotic world the duties of Atlas fall to America.

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Jihad: The Trail of Political Islam. By Gilles Kepel. *Harvard University Press; 416 pages; $29.95. I.B. Tauris; £25*

Of the countless books published over the past year on violent Islamic radicalism, this is the one that tries hardest to explain its rise historically. Gilles Kepel's tentative conclusion—that fundamentalism's moment in the Islamic world has passed and that, by implication, al-Qaeda and its sort represent a frightening but desperate last throw—will strike many as too sanguine. An indispensable guide, nonetheless, by a noted French sociologist and professor at the Institut d'Etudes Politiques in Paris.

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The Threatening Storm: The Case for Invading Iraq. By Kenneth M. Pollack. *Random House; 494 pages; $25.95*

Whether or not you agree with Kenneth Pollack's conclusions (which are more hedged than his subtitle suggests), he lays out the recent history of Iraq, the brutality of Saddam Hussein's regime and the pros and cons of military intervention with admirable clarity and even-handedness. Do not listen to anyone on this subject if they have not read this book.

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The Emerging Democratic Majority. By John B. Judis and Ruy Teixeira. *Scribner; 224 pages; $24*

Using psychological studies and survey evidence, the authors argue that the tide in American politics is flowing towards Democrats—driven by women, Hispanics and unhappy professionals. Judging from November's election, they are wrong on the face of it. And there are plausible competing theories. Still, the authors claim to have spotted trends that recent events favouring Republicans—Bill Clinton's travails, September 11th and Iraq—have masked. Worth remembering, in case their prediction proves correct.

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The Rise of Southern Republicans. By Earl Black and Merle Black. *BelknapPress; 464 pages; $29.95 and £19.95*

One sound reason to question the thesis, put forward by John Judis and Ruy Teixeira, about the emergence of an enduring Democratic majority has been the crucial transformation of the South from Dixiecrat to Republican. The South used to be a rock on which Republicans traditionally foundered. Now it is one around which Republican coalitions can be built. This book is the definitive work on that important historical shift.

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ECONOMICS AND BUSINESS

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What Management Is: How It Works and Why It's Everyone's Business. By Joan Magretta with the collaboration of Nan Stone. *The Free Press: 256 pages; $25. Profile Books; £20*

A rare animal—a management book that is lucid, interesting and honest. It will help managers see the wood as well as the trees in their everyday work, and help them to explore the wider management literature, with guidance on which of it is codswallop (a comfortable majority) and where lie the nuggets of wisdom.

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Small is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size. By Amory Lovins. *Rocky Mountain Institute; 420 pages; $60. Distributed in Britain by Earthscan; £80*

In a provocative and well considered work, Amory Lovins and his colleagues at the Rocky Mountain Institute, a Colorado natural resources think-tank, expose the folly of building gigantic power plants and make a convincing case that the world is about to be turned on its ear by the rise of micropower.

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Martha Inc: The Incredible Story of Martha Stewart Living Omnimedia. By Christopher Byron. *John Wiley; 416 pages; $27.95 and £20.95*

What started as a company became a brand. It may end with a bump. Meanwhile, Christopher Byron's account is fun, bitchy and, when it is due, also admiring, of the woman who is responsible for stretching chintz across America.

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SCIENCE, TECHNOLOGY AND PHILOSOPHY

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The Glass Bathyscaphe: Glass and World History. By Alan Macfarlane and Gerry Martin. *Profile Books; 320 pages; £15*

An account of glass prisms, lenses, mirrors, test-tubes and flat panes, from their discovery, through antiquity, the Enlightenment, the scientific and industrial revolutions, to the present day, as well as an absorbing story about the part that glass has played in the development of scientific and aesthetic thought—in the east, but predominantly in the west.

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The Man Who Lost His Language. By Sheila Hale. *Penguin/Allen Lane; 302 pages; £14.99*

It may seem odd to include Sheila Hale's remarkable memoir about the stroke and paralysis that cut down her late husband, a renaissance historian, among science books. But it stands out from why-me stories of illness and family death by delving into the science of speech loss and the depression that commonly follows strokes. Clear-eyed and not the least self-pitying.

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The Measure of All Things: The Seven-Year Odyssey and Hidden Error that Transformed the World. By Ken Alder. *The Free Press; 432 pages; $27. Little, Brown; 288 pages; £15.99*

Who would have thought that the story of how two astronomers measured the meridian arc from Dunkerque through Paris to Barcelona could be so much fun? Ken Alder's exhaustive book about the flawed (but not failed) attempt to create a new unit of measurement, the metre, amid the chaos of France in the 1790s strikes just the right balance between pop and science.

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The Lunar Men: Five Friends Whose Curiosity Changed the World. By Jenny Uglow. *Farrar, Straus and Giroux; 512 pages; $30. Faber and Faber; £25*

In the mid-18th century a group of clever Birmingham men—Erasmus Darwin, Matthew Boulton and Josiah Wedgwood—gathered every month on the Monday night nearest to the full moon to discuss pretty much everything under the sun. Sometimes they were joined by James Watt, of steam engine fame, and Joseph Priestley, a burning radical who discovered oxygen. A wonderful snapshot of what and who was best in Britain and its intellectual life in the mid-1700s.

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Project Orion: The True Story of the Atomic Spaceship. By George Dyson. *Henry Holt; 320 pages; $26. Penguin/Allen Lane; £12.99*

An account of the attempt to build an atomic spaceship that could have gone to the moons of Saturn. It captures the brief moment of post-war euphoria, when everything seemed possible after the splitting of the atom, and before the reality of the cold war and the possibility of nuclear annihilation set in.

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The Blank Slate: The Modern Denial of Human Nature. By Steven Pinker. *Viking Press; 528 pages; $27.95. Penguin/Allen Lane; £25*

Steven Pinker's books are almost always aggravating and rewarding in roughly equal measure. In his latest, he argues that social science and its popularisers have neglected or derided research showing that much—though far from all—of our behaviour and attitudes are hard-wired or innate. His jokes, his quarrelsomeness and his weakness for digression are a drawback. But his main argument, when he sticks to it, is well made.

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FILM, MUSIC AND INSTRUCTIVE DIGRESSION

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A Third Face: My Tale of Writing, Fighting and Filmmaking. By Samuel Fuller. *Knopf; 574 pages;*

$35

In the 1950s and 1960s, Sam Fuller tackled topics and made movies in ways that safer directors would not touch. A crime reporter and infantryman before turning to film, he finished most of this book before his death in 1997. It is a Hollywood autobiography by a true American primitive.

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Paris Hollywood: Writings on Film. By Peter Wollen. *Verso; 275 pages; $20 and £13*

Peter Wollen's take on film is open, original and unexpected. His “Signs and Meaning in the Cinema” (1973) transformed film criticism in America and Britain. These essays show his extraordinary range and inventiveness. Opening with a wry and knowing A-to-Z of cinema, they are Mr Wollen at his best.

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Deep in a Dream: The Long Night of Chet Baker. By James Gavin. *Knopf; 413 pages; $26.95. Chatto and Windus; £20*

Trumpeter, singer and jazz icon, Chet Baker looked and sounded like an angel. But James Gavin's appalling, enthralling biography chronicles how his life turned into a demonic obsession with drugs, while he still produced heavenly music.

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Schott's Original Miscellany. By Ben Schott. *Bloomsbury; 160 pages; £9.99*

The laws of robotics, Euclid's axioms, the Glasgow coma scale, ice thicknesses, the Victorian timetable of mourning, naval twilight, pencil hardnesses, how to reckon bra sizes, the labours of Hercules, poker odds, British weather forecasting areas and hundreds more. This wholly admirable collection of useful and useless information is a perfect end-year gift.

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The Snow Geese: A Story of Home. By William Fiennes. *Random House; 288 pages; $24.95. Picador; £14.99*

William Fiennes follows migrating snow geese on their annual 3,000 mile voyage from south Texas to the Arctic circle in a journey that is coloured in with lessons on avian orientation, the Northern Lights and the sport of curling, as well as portraits of birdwatchers, former hobos, backyard inventors and Inuit hunters. Most moving are his meditations on restlessness—the primal, contradictory human impulses to leave and return, and leave and return.

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FICTION, VERSE AND CRITICISM

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By the Lake. By John McGahern. *Knopf; 384 pages; $24. Published in Britain as “That They May Face the Rising Sun”. Faber and Faber; £16.99*

Gentleness and warmth infuse this novel, which is a memorial to a rapidly vanishing way of life as well as a testament to the enduring connections, both among men and with the land, which have shaped the Irish character and spawned its traditions. John McGahern's first novel since “Amongst Women” was published in 1990 certainly has been worth the wait.

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Big If. By Mark Costello. *Norton; 320 pages; $24.95*

A vivid study of the American Secret Service and the panoply of lunatics that its agents try to keep away from Washington politicians and presidential candidates. While many other writers only dream of achieving greatness, Mark Costello's work should have been born with the words “Great American Novel” stamped on the front.

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Belonging. By Dick Davis. *Ohio University Press/Swallow Press; 56 pages; $24.95*

A British poet married to an Iranian, Dick Davis teaches Persian literature in the United States. The cultural diversity of his life is reflected in the variety of his poems—in their skilfully handled formal range, in the scope of their subject-matter and in their commitment to an ideal of civilised life shared by many cultures. “Belonging” is a profound and beautiful collection, which stimulates, dazzles, surprises and delights.

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If Not, Winter: Fragments of Sappho. Translated by Anne Carson. *Knopf; 416 pages; $27.50*

A plain-spoken, elegant new translation of Sappho's lyrics—beautifully presented with the Greek text facing each page—by a classicist from McGill University, who has long mined Greek literature to tremendous effect and acclaim in her poetry and essays.

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A Whistling Woman. By A.S. Byatt. *Knopf; 448 pages; $26. Chatto & Windus; £16.99*

The elegant construction and pervasive intelligence of this fourth volume should persuade older readers to re-read—and younger ones to pick up for the first time—the first three volumes of A.S. Byatt's great Frederica tetralogy.

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Family Matters. By Rohinton Mistry. *Knopf; 448 pages; $26. Faber and Faber; £16.99*

One of Canada's most talented immigrant novelists, along with Michael Ondaatje and Yann Martel, Bombay-born Rohinton Mistry richly deserves the plaudits he won for this intimate portrait of an elderly Parsi paterfamilias, whose struggle with his failing body and his thoughtless offspring manages to be as comic, joyous and poetic as it is bleak.

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Finders Keepers: Selected Prose 1971-2001. By Seamus Heaney. *Faber and Faber; £20*

Seamus Heaney is as brilliant a critic of poetry as he is a practitioner, which makes this selection inspiring and indispensable.

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Dirt Music. By Tim Winton. *Scribner; 416 pages; $26. Picador; £15.99*

A nuanced portrait of three very different characters, set against Australia's hostile desert and its magnificent coastline, makes for a cracking page turner. This novel should seal Tim Winton's reputation.

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The Horned Man. By James Lasdun. *Norton; 195 pages; $24.95. Jonathan Capes; £10.99*

An intelligent and thoughtful New York academic, recently separated from his wife, suddenly feels his life begin to disintegrate. Is he the victim of a malign conspiracy or is he becoming truly psychotic? A startling and brilliantly mysterious debut.

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Everything is Illuminated. By Jonathan Safran Foer. *Houghton Mifflin; 228 pages; $24. Hamish Hamilton; £14.99*

This literary equivalent of a Marc Chagall *shtetl* painting tells two stories that collide in the cataclysm of the Holocaust. An imaginative and sophisticated first novel.

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Crow Lake. By Mary Lawson. *Dial Press; 240 pages; $23.95. Chatto & Windus; £12*

A compelling, slowburning story of a fractured family in the rural “badlands” of Northern Ontario, where hardship is mirrored in the landscape and tragedy is never very far away.

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See also our audio interview on books of the year with the books editors of *The Economist*

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About sponsorship

Children's bestsellers

What the world is reading

Dec 12th 2002
From The Economist print edition

Magical practices and practical magic

NOT every child in America, it seems, already owns the collected works of J.K. Rowling and Lemony Snicket. Lavish new special editions by these authors are flying off the shelves like boy-wizards on broomsticks. Simply putting books in a box seems to do wonders for their marketability; so, it seems, can a set of fresh illustrations, as in the case of Clement Clarke Moore's 19th-century classic, “The Night Before Christmas”, which appears twice in the American top ten. The text is the same in each, only the pictures are different.

The British lists, meanwhile, are dominated (as they traditionally are at this time of year) by that reliable old stocking-filling staple, the annual. Barbie rubs shoulders with Bob the Builder, Rupert the Bear with Thomas the Tank Engine, the Tweenies with the “Beano” crowd. Though clearly also susceptible to the charms of Ms Rowling and Mr Snicket, British tots are not content with merely reading about mischief and magic, but want actually to make and perform mischief and magic of their own, with the help of practical guidebooks such as “How to Be a Fairy Princess” and “Magic Tricks”.

Bestsellers

	AMERICA 4-8 YEARS OLD	AMERICA 9-12 YEARS OLD
1	**The Night Before Christmas** *by Clement Clarke Moore* Newly illustrated classic	**Harry Potter Boxed Set** *by J.K. Rowling* The story so far
2	**I'm Gonna Like Me** *by Jamie Lee Curtis* Never too young for self-affirmation	**The Carnivorous Carnival** *by Lemony Snicket* Ninth in a series of unfortunate events
3	**Eloise Takes a Bawth** *by Kay Thompson* Newly published closet classic	**A Box of Unfortunate Events (Books 1-3)** *by Lemony Snicket* All's well that ends unwell
4	**The Polar Express** *by Chris Van Allsburg* Whisked away to the North Pole	**The Thief Lord** *by Cornelia Funke* Menace in Venice
5	**Where the Wild Things Are** *by Maurice Sendak* Let the rumpus begin	**The Chronicles of Narnia Boxed Set** *by C.S. Lewis* Lions, witches, wardrobes and more
6	**Who's That Knocking On Christmas Eve?** *by Jan Brett* Troll trouble	**The Lord of the Rings Boxed Set** *by J.R.R. Tolkien* Marvels of middle earth
7	**Spongebob Squarepants Joke Book** *by David Lewman* Gags aplenty	**Harry Potter and the Goblet of Fire** *by J.K. Rowling* Harry in wizard tournament
8	**The Magic Treehouse Boxed Set** *by Mary Pope Osborne* Sleuthing siblings	**The Lord of the Rings** *by J.R.R. Tolkien* Marvels of middle earth
9	**The Night Before Christmas** *by Clement Clarke Moore* Another newly illustrated classic	**A Box of Unfortunate Events (Books 4-6)** *by Lemony Snicket* The situation worsens
10	**Junie B. Jones Boxed Set** *by Barbara Park* Collected mayhem	**Hoot** *by Carl Hiaasen* Young ecowarrior goes to Florida

	BRITAIN 4-8 YEARS OLD	BRITAIN 9-12 YEARS OLD
1	**The Barbie Annual 2003** *published by Egmont Books* Pretty in pink	**The Beano Annual 2003** *published by D.C. Thompson* Perennial comic favourite
2	**Bob the Builder Annual 2003** *published by Egmont Books* Bob'll fix it	**The Amazing Maurice and His Educated Rodents** *by Terry Pratchett* Fresh take on Pied Piper tale
3	**Bead Box** *published by Parragon* Looking chic on a shoestring	**Harry Potter and the Chamber of Secrets** *by J.K. Rowling* More wizardry and more Harry
4	**Glass Art** *published by Parragon* Artisan's starter kit	**The Dandy Annual 2003** *published by D.C. Thompson* Desperate Dan and pals
5	**Things to Make and Do** *published by Parragon* When you've had enough of Monopoly	**Magic Tricks** *published by Parragon* How to win friends and bamboozle people
6	**How to be a Fairy Princess** *published by Parragon* For those who don't know already	**The Match Annual 2003** *edited by Simon Caney and Ian Foster* Football facts and figures
7	**Paper Planes** *published by Parragon* Just be careful where you point that	**Harry Potter and the Prisoner of Azkaban** *by J.K. Rowling* Convict on the run after trainee wizard
8	**The Rupert Annual 2003** *published by Pedigree Books* Britain's longest-running cartoon hero	**The Vile Village** *by Lemony Snicket* Fourth in a series of unfortunate events
9	**The Tweenies Annual 2003** *published by BBC Books* Stories, puzzles, games and songs	**Girls in Tears** *by Jacqueline Wilson* Third installment in lachrymose saga
10	**Thomas the Tank Engine Annual 2003** *published by Egmont Books* Ageless creation in updated adventures	**Harry Potter and the Goblet of Fire** *by J.K. Rowling* Harry in wizard tournament

Sources: Amazon.com; Nielsen BookScan

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About sponsorship

Ne Win

Dec 12th 2002
From The Economist print edition

Ne Win, the destroyer of Burma, died on December 5th, aged 91

EPA

Get article background

IN THE winter of 1960, Ne Win, then prime minister of Burma, visited China to sign a treaty of friendship. He felt instantly comfortable with the Chinese, partly perhaps because of a blood tie through a distant ancestor, but mostly because of the welcome he received from Zhou Enlai, the Chinese prime minister, who had the gift of charm, rare in China at that time. “We are almost brothers,” Zhou told him amid embraces. More importantly, Zhou seemed to dispense power effortlessly. His wishes seemed to be obeyed without question, with military-style thoroughness. He had only one master to consult, Chairman Mao Zedong. On his way home Mr Ne Win contrasted the system in China with that in Burma. He was irked by the tedium of the democratic ways of his country since it had been granted independence by Britain in 1948. He was primarily a military man, holding the job of army chief in addition to civilian duties. Why, he reasoned, could he not run the country in the efficient, no-nonsense way he had witnessed in China?

Mr Ne Win liked to watch, and watch again, a newsreel that had been taken of his meeting with Zhou. In 1962, he struck, leading an army coup that dismissed parliament, scrapped the constitution and jailed most government ministers. He adopted the title “chairman”. Only one party, Mr Ne Win's, was allowed. When university students objected he blew up their lodgings. All land, industry and commerce were taken over by the state, as they had been in China. Dance halls were closed, gambling was forbidden. Foreigners were expelled, tourism was abolished. No high-rise building was allowed; no neon signs, even for Coca-Cola. Burma became one of the most difficult countries in the world to enter. Mr Ne Win's one-man rule, during which the modern world was locked out, was to last for 26 years.

These foolish acts

The modern world was not too bothered about being excluded. Burma was not seen as strategically important, as Vietnam and Korea were. U Thant, the secretary-general of the United Nations from 1961 to 1971, was for many people the “decent” Burma, whatever was happening inside the country. Nor, it should be said, was Burma an easy country to govern. For years before Mr Ne Win came to power some ethnic areas had been in rebellion against the central government. However, his policy of state control, isolation and repression made things worse. Ethnic groups became bolder. Opium chiefs expanded their fiefs and corrupted the soldiers sent to close them down. Burma had been the world's largest exporter of rice, but by 1973 could hardly provide enough for its own needs. Income per person fell from $670 a year in 1960 to $200 in 1989. Despite having good farmland, high quality timber such as teak and minerals including oil, Burma was rated one of the world's poorest countries.

Mr Ne Win was not a fool. He was of middle-class stock and briefly attended university. But he was foolishly in the thrall of obsolescent ideologies, the communism of China, a country he visited a dozen times, and the former fascism of Japan. During the second world war he had been recruited by Japan to fight against the British in Burma, and became one of the leaders of a Japanese-run “independent” Burma, along with Aung San, the father of the country's present democratic leader, Aung San Suu Kyi. Both men joined the British towards the end of the war when the Japanese were in retreat. Aung San was murdered in 1947. Miss Suu Kyi says in her book about her father that he had planned to devote his life to “his family and writing”. Mr Ne Win, though, was committed to power. When he became dictator

his slogan was, “One blood, one voice, one command”. As dictators do, he adopted a new name. Ne Win means “brilliant as the sun”. His real name, Shu Maung, means “apple of my eye”.

Those who did penetrate the lost land of Burma emerged with a rare lot of travellers' tales. Astrologers advised the dictator that nine was his lucky number, and he decreed that only currency notes divisible by nine were of value. All others were declared worthless. He was said to have married nine times, although some reports said only seven. He liked to dress up to look like the ancient kings of Burma. He bathed in dolphin's blood, believing it kept him youthful. He was obsessional about English and fined editors whose newspapers had spelling mistakes.

In 1988 Mr Ne Win announced his retirement. A group of generals took over the dictatorship and marked the change by calling the country Myanmar, a traditional name. A surprisingly free general election was won by Miss Suu Kyi's democrats in 1990, but the result was not honoured. It was assumed that Mr Ne Win continued to be consulted by the generals into old age. But his power seemed finally to have withered this year when some members of his family were accused, on little published evidence, of plotting a coup. His last public appearance was at a lunch he gave to Buddhist monks, 99 of them. He died, apparently peacefully, in his villa on the palm-fringed shore of Lake Inya, not far from Miss Suu Kyi's own house. Whatever the power of numbers may be, he could count himself pretty lucky.

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Overview

Dec 12th 2002
From The Economist print edition

America's economy is rebounding slowly, even if some workers may find this hard to believe. The unemployment rate rose to 6% in November, up from 5.7% in October. The new figures take unemployment to a level last touched in April. Payrolls fell by 40,000, the biggest drop since February. The workers who remained are happier with their pay, however, after chalking up an average 2.9% wage rise in the year to November—although this was less than the 3.9% pay rise a year ago.

Inflationary pressures increased in the **euro area** in October, according to an index published by the Economic Cycle Research Institute. Although overall risks of inflation remain largely subdued, this month's rate-cut by the European Central Bank might increase them a bit. **France's** consumer-price inflation rose to 2.2% in the year to November, up from 1.9% in year to October. There was no let-up in **Germany's** economic woes. Industrial output fell in October by 2.1%, suggesting that GDP growth will be even more sluggish in the fourth quarter than expected. **Spain's** unemployment rate was 11.7% in October, up by more than a percentage point from a year ago.

Sweden's economy grew by 2.0% in the year to the third quarter, slightly higher than the 1.9% expected, but down from 2.4% in the year to the second quarter.

Revised figures for **Japan's** economic growth in the third quarter are only a slight improvement. GDP grew by 0.8%, an annualised rate of 3.2%, up from earlier estimates of 0.7% and 3.0% respectively.

Canada's unemployment rate edged down slightly to 7.5% in November, from 7.6% in October.

Britain ran a record trade deficit in goods of £3.6 billion in October as exports fell sharply. The deficit in goods and services was £2.6 billion, up from £1.8 billion in September. Manufacturers have been hit by the weakness of the euro area: goods exports to the EU fell by 5.6% from September's level, contributing to a decline in manufacturing output of 0.7% in October. These figurs offer further evidence of imbalances in the British economy: GDP growth is being sustained by buoyant public and consumer spending, but business investment has plummeted and exports have been suffering because of weak overseas demand.

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Output, demand and jobs

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From The Economist print edition

% change on year ago

	GDP		The Economist poll GDP forecasts		Industrial production	Retail sales (volume)	Unemployment % rate	
	1 qtr*	1 year	2002	2003	latest	latest	latest	year ago
Australia	+ 3.5	+ 3.7 Q3	+ 3.6	+ 3.3	+ 2.7 Q2	+ 5.4 Q3	6.1 Nov	6.8
Austria	+ 2.5	+ 0.9 Q2	+ 0.6	+ 1.6	− 1.9 Sep	+ 0.4 Aug	4.1 Oct	3.8
Belgium	+ 1.2	+ 0.8 Q3	+ 0.6	+ 1.7	+ 3.0 Oct	− 6.5 Sep	11.6 Nov†	10.8
Britain	+ 3.4	+ 1.8 Q3	+ 1.6	+ 2.5	− 1.2 Oct	+ 6.0 Oct	5.3 Sep††	5.1
Canada	+ 3.1	+ 4.0 Q3	+ 3.4	+ 3.2	+ 5.5 Sep	+ 7.0 Sep	7.5 Nov	7.6
Denmark	− 3.8	+ 0.9 Q3	+ 1.6	+ 2.0	nil Sep	+ 7.5 Oct	5.4 Oct	5.0
France	+ 0.9	+ 0.8 Q3	+ 1.0	+ 1.8	− 0.6 Oct	+ 2.7 Oct	9.0 Oct	8.7
Germany	+ 1.1	+ 0.4 Q3	+ 0.3	+ 1.1	− 1.4 Oct	− 1.1 Oct	10.0 Nov§	9.5
Italy	+ 1.1	+ 0.5 Q3	+ 0.4	+ 1.5	+ 1.2 Sep	− 2.7 Sep	9.0 Jul	9.5
Japan	+ 3.2	+ 1.3 Q3	− 0.5	+ 0.7	+ 5.3 Oct	− 1.8 Oct	5.5 Oct	5.4
Netherlands	+ 0.3	+ 0.1 Q3	+ 0.3	+ 1.4	− 1.4 Oct	+ 0.9 Sep	2.4 Oct**	2.0
Spain	+ 3.2	+ 1.8 Q3	+ 1.9	+ 2.4	+ 4.1 Oct	na	11.7 Oct	10.6
Sweden	+ 1.6	+ 2.0 Q3	+ 1.7	+ 2.3	+ 1.1 Sep	+ 7.4 Sep	3.7 Oct†	4.0
Switzerland	+ 1.3	+ 0.6 Q3	nil	+ 1.2	− 2.0 Q2	− 1.1 Sep	3.3 Nov†	2.1
United States	+ 4.0	+ 3.2 Q3	+ 2.4	+ 2.6	+ 1.2 Oct	+ 0.6 Oct	6.0 Nov	5.6
Euro area	+ 1.3	+ 0.8 Q3	+ 0.7	+ 1.5	− 0.6 Sep	− 0.6 Sep	8.4 Oct	8.0
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*							
Finland	+ 1.9	+ 2.3 Q3	na	na	+ 4.3 Oct	+ 3.4 Aug	8.5 Oct†	8.3
Greece	na	+ 3.6 Q3	na	na	− 1.4 Sep	na	na	na
Iceland	na	+ 3.12001	na	na	+ 3.3 2001	na	2.2 Sep†	1.0
Ireland	na	+ 6.5 Q2	na	na	+ 8.2 Sep	+ 5.2 Sep	4.4 Nov	4.1
Luxembourg	na	+ 3.52001	na	na	− 1.4 Sep	− 5.7 Jul	3.0 Sep†	2.5
New Zealand	+ 7.1	+ 4.0 Q2	na	na	+ 4.3 Q2	+ 8.1 Q3	5.4 Q3	5.2
Norway	+ 3.1	+ 1.7 Q2	na	na	+ 2.3 Oct	+ 2.8 Oct	3.8 Q3	3.6
Portugal	+ 2.8	+ 0.9 Q2	na	na	− 0.5 Oct	+ 1.4 Oct	5.1 Q3†	4.0

*% change at an annual rate. †Not seasonally adjusted. ††July-Sep; claimant count rate 3.1% in Oct. §EU harmonised rate 8.4% in Nov. **Aug-Oct.

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Prices and wages

Dec 12th 2002
From The Economist print edition

% change on year ago

	Consumer prices			The Economist poll consumer prices forecast		Producer prices			Wages/earnings		
	latest		year ago	2002	2003	latest		year ago	latest		year ago
Australia	+ 3.2	Q3	+ 2.5	+ 2.9	+ 2.6	– 0.2	Q3	+ 2.4	+ 3.6	Q3	+ 4.0
Austria	+ 1.8	Oct	+ 2.5	+ 1.8	+ 1.7	+ 0.5	Nov	– 1.5	+ 2.3	Oct	+ 2.8
Belgium	+ 1.1	Nov	+ 2.1	+ 1.7	+ 1.4	+ 1.5	Oct	– 4.2	+ 2.1	Q3	+ 3.7
Britain	+ 2.1	Oct	+ 1.6	+ 1.9	+ 2.4	+ 1.2	Nov	– 1.4	+ 3.8	Sep	+ 4.3
Canada	+ 3.2	Oct	+ 1.9	+ 2.2	+ 2.5	+ 2.4	Oct	– 1.3	+ 2.6	Sep	+ 2.0
Denmark	+ 2.7	Nov	+ 1.9	+ 2.4	+ 2.1	+ 0.8	Oct	– 0.3	+ 3.9	Q3	+ 4.3
France	+ 2.2	Nov	+ 1.2	+ 1.9	+ 1.4	+ 0.6	Oct	– 1.5	+ 3.4	Q3	+ 4.2
Germany	+ 1.1	Nov	+ 1.7	+ 1.4	+ 1.1	+ 1.1	Nov	– 1.9	+ 2.4	Sep	+ 2.3
Italy	+ 2.8	Nov	+ 2.4	+ 2.5	+ 2.0	+ 1.1	Oct	– 0.6	+ 2.3	Oct	+ 2.5
Japan	– 0.9	Oct	– 0.8	– 1.0	– 0.6	+ 0.3	Nov	– 0.8	+ 1.5	Oct	– 0.4
Netherlands	+ 3.2	Nov	+ 4.2	+ 3.7	+ 2.5	+ 2.2	Oct	– 1.4	+ 3.4	Oct	+ 4.9
Spain	+ 4.0	Oct	+ 3.0	+ 3.4	+ 2.7	+ 1.6	Oct	– 0.4	+ 4.0	Q2	+ 2.9
Sweden	+ 2.5	Oct	+ 2.7	+ 2.3	+ 2.0	– 1.0	Oct	+ 0.5	+ 2.7	Sep	+ 3.6
Switzerland	+ 0.9	Nov	+ 0.3	+ 0.7	+ 0.8	– 0.6	Oct	– 1.4	+ 2.5	2001	+ 1.3
United States	+ 2.0	Oct	+ 2.1	+ 1.6	+ 2.1	+ 0.6	Oct	– 0.3	+ 2.9	Nov	+ 3.9
Euro area	+ 2.2	Nov	+ 2.1	+ 2.2	+ 1.7	+ 0.9	Oct	– 0.7	+ 3.3	Q2	+ 3.0
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 1.5	Oct	+ 2.2	na	na	+ 0.8	Oct	– 3.4	+ 3.5	Q3	+ 4.7
Greece	+ 3.6	Nov	+ 2.4	na	na	+ 1.9	Sep	+ 1.3	na		na
Iceland	+ 2.0	Dec	+ 8.6	na	na	+ 5.8	Nov	+ 6.8	+ 5.9	Oct	+ 9.1
Ireland	+ 4.7	Oct	+ 4.3	na	na	– 0.4	Oct	– 1.4	+ 4.3	Q2	+ 8.5
Luxembourg	+ 2.2	Oct	+ 2.3	na	na	– 0.1	Sep	– 0.6	+ 1.6	Sep	+ 1.7
New Zealand	+ 2.6	Q3	+ 2.4	na	na	– 1.7	Q3	+ 6.2	+ 2.3	Q3	+ 2.0
Norway	+ 2.1	Nov	+ 1.8	na	na	+ 3.2	Nov	–23.2	+ 5.0	Q3	+ 4.8
Portugal	+ 4.0	Oct	+ 4.1	na	na	+ 1.4	Oct*	+ 1.0	+ 0.6	Sep*	na

*Revised series.

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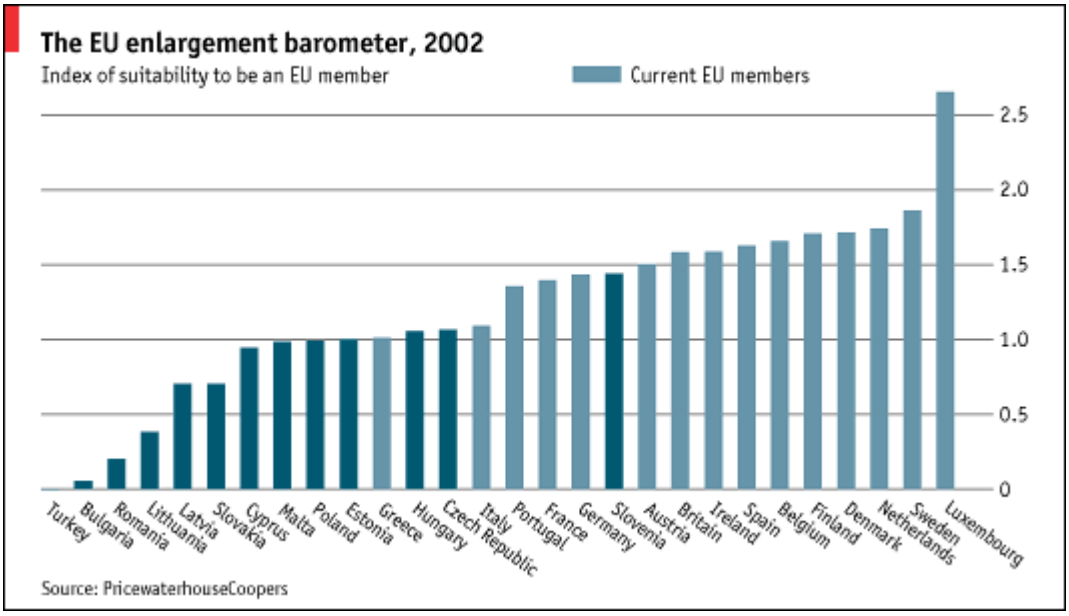
The EU enlargement barometer 2002

Dec 12th 2002
From The Economist print edition



The gap between the European Union's members and the ten aspirant countries at this week's Copenhagen summit continues to narrow. PricewaterhouseCoopers, a consultancy, ranks these and other hopefuls on an index of four characteristics: macroeconomic stability, economic structure, infrastructure and integration with the rest of Europe. Bulgaria and Romania are still lagging. Turkey scored zero.

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Money and interest rates

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	Money supply* % change on year ago			Interest rates % p.a. (Dec 11th 2002)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	– 6.7	+10.1	Oct	4.84	4.30	4.63	5.45	5.54	6.45
Britain	+ 8.2	+ 5.4	Oct	3.94	3.99	3.94	4.55	4.75	5.94
Canada	+11.1	+ 6.1	Oct	2.69	2.02	3.27	4.97	5.37	6.86
Denmark	+ 4.1	+ 6.4	Oct	3.20	3.42	3.29	4.57	4.82	6.75
Japan	+28.6	+ 3.2	Nov	0.02	0.02	0.05	1.00	1.36	1.08
Sweden	+ 2.6	+ 6.7	Aug	3.68	3.71	3.84	4.86	5.11	4.57
Switzerland	+11.5	+ 5.4	Oct	0.68	1.88	1.15	2.25	3.21	3.52
United States	+ 3.5	+ 6.0	Oct	1.31	1.72	1.82	3.99	4.90	6.32
Euro area†	+ 8.2	+ 7.0	Oct	2.92	3.35	2.93	4.31	4.62	5.01

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. † Germany for bonds. Benchmarks: US 30-year 4.91%, Japan No.244 1.01%. Central bank rates: US fed funds 1.25%, ECB refinancing 2.75%, BOJ overnight call 0.002%, BOE repo 4.00%. Sources: Commerzbank, Danske Bank, J.P. Morgan Chase, Royal Bank of Canada, Stockholmsbörsen, UBS Warburg, Global Insight, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Dec 12th 2002
From The Economist print edition

1995=100

	Nov 26th	Dec 3rd	Dec 10th*	% change on one month	% change on one year
Dollar index					
All items	76.1	76.2	75.7	– 0.2	+15.4
Food	79.5	79.3	78.3	– 1.7	+15.0
Industrials					
All	71.4	72.0	72.0	+ 2.2	+16.1
Nfa†	73.4	73.8	74.8	+ 4.0	+27.1
Metals	69.8	70.5	69.7	+ 0.7	+ 7.6
Sterling index					
All items	76.9	76.7	75.9	+ 0.9	+ 5.4
Euro index					
All items	100.8	100.5	98.6	– 0.1	+ 1.6
Yen index					
All items	98.6	100.9	99.5	+ 3.5	+12.9
Gold					
$ per oz	318.40	319.45	323.30	+ 0.5	+18.4
West Texas Intermediate					
$ per barrel	26.41	27.32	27.78	+ 7.1	+54.5

* Provisional. † Non-food agriculturals.

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Stockmarkets

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From The Economist print edition

Market indices

	Dec 11th	2002 high	2002 low	% change on one week	% change on record high	% change on Dec 31st 2001 in local currency	% change on Dec 31st 2001 in $ terms
Australia (All Ordinaries)	2,939.5	3,440.0	2,855.5	- 1.8	-14.5	-12.5	- 4.2
Austria (ATX)	1,130.2	1,357.2	1,003.7	+ 0.6	-34.9	- 0.9	+12.3
Belgium (Bel 20)	2,008.8	2,899.8	1,773.7	+ 0.2	-45.4	-27.8	-18.2
Britain (FTSE 100)	3,974.9	5,323.8	3,671.1	- 1.8	-42.6	-23.8	-17.5
Canada (Toronto Composite)	6,587.3	7,958.1	5,695.3	- 0.3	-42.2	-14.3	-12.1
Denmark (KBX)	166.6	233.4	156.4	- 0.0	-44.8	-25.9	-16.0
France (SBF 250)	2,140.3	3,081.9	1,794.5	- 0.7	-51.3	-28.2	-18.7
(CAC 40)	3,190.1	4,688.0	2,656.5	- 0.3	-53.9	-31.0	-21.9
Germany (Xetra DAX)	3,196.1	5,462.6	2,597.9	- 3.8	-60.4	-38.1	-29.8
Italy (BCI)	1,128.2	1,513.0	974.4	- 3.0	-48.3	-21.3	-10.8
Japan (Nikkei 225)	8,727.7	11,979.9	8,303.4	- 3.1	-77.6	-17.2	-12.0
(Topix)	851.9	1,139.4	817.1	- 2.6	-70.5	-17.5	-12.3
Netherlands (AEX)	335.7	531.2	291.4	- 2.2	-52.1	-33.8	-25.0
Spain (Madrid SE)	665.8	848.1	568.5	- 1.8	-41.9	-19.2	- 8.5
Sweden (Affarsvarlden Gen)	157.4	236.8	122.7	- 2.4	-60.7	-32.0	-20.9
Switzerland (Swiss Market)	4,905.8	6,694.1	4,435.0	- 2.1	-41.7	-23.6	-13.2
United States (DJIA)	8,589.1	10,635.3	7,286.8	- 1.7	-26.7	-14.3	-14.3
(S&P 500)	905.0	1,172.5	776.8	- 1.4	-40.8	-21.2	-21.2
(NASDAQ Comp)	1,396.6	2,059.4	1,114.1	- 2.4	-72.3	-28.4	-28.4
Europe (FTSE Eurotop 300)*	893.5	1,279.7	797.2	- 2.2	-47.6	-29.1	-19.7
Euro area (FTSE Ebloc 100)*	755.4	1,125.1	639.4	- 2.4	-51.3	-32.1	-23.1
World (MSCI)†	804.2	1,024.4	703.7	- 1.4	-44.5	na	-19.9
World bond market (Salomon)‡	506.0	510.0	430.3	+ 1.3	- 0.8	na	+15.1

*In euro terms. †Morgan Stanley Capital International index includes individual markets listed above plus eight others, in dollar terms.
‡Salomon Smith Barney World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

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	Trade balance*, $bn latest 12 months		Current account $bn latest 12 mths		The Economist poll % of GDP, forecast 2002	2003	Exchange rate trade-weighted† 1990=100 Dec 11th	year ago	Currency units per $ Dec 11th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2002‡
Australia	− 3.3	Oct	− 14.3	Q3	− 3.8	− 3.9	74.6	73.2	1.78	1.94	2.81	1.78	1.45	0.1
Austria	− 0.8	Aug	− 1.1	Sep	− 0.8	− 0.9	100.9§	100.3	0.99	1.13	1.56	–	0.80	-1.6
Belgium	+ 17.1	Sep	+ 12.4	Jun	+ 5.1	+ 5.0	100.1§	99.1	0.99	1.13	1.56	–	0.80	nil
Britain	− 49.0	Oct	− 25.8	Q2	− 2.0	− 2.0	105.7	106.4	0.63	0.71	–	0.63	0.51	-1.4
Canada	+ 34.7	Sep	+ 12.4	Q3	+ 1.9	+ 1.9	76.2	76.8	1.56	1.57	2.45	1.56	1.26	0.6
Denmark	+ 7.1	Sep	+ 3.6	Sep	+ 2.2	+ 2.0	103.5	102.3	7.36	8.38	11.6	7.36	5.97	2.2
France	+ 9.8	Sep	+ 26.8	Sep	+ 1.6	+ 1.6	103.0§	101.8	0.99	1.13	1.56	–	0.80	-2.7
Germany	+112.9	Oct	+ 38.7	Oct	+ 1.4	+ 1.1	100.0§	98.7	0.99	1.13	1.56	–	0.80	-3.7
Italy	+ 11.1	Oct	− 1.0	Sep	nil	− 0.1	73.5§	72.7	0.99	1.13	1.56	–	0.80	-2.3
Japan	+ 89.3	Oct	+113.9	Oct	+ 2.8	+ 2.8	129.8	133.4	123	124	194	123	–	-7.9
Netherlands	+ 27.2	Sep	+ 9.0	Q3	+ 3.0	+ 3.2	99.2§	98.1	0.99	1.13	1.56	–	0.80	-0.8
Spain	− 36.9	Sep	− 14.2	Aug	− 2.1	− 1.9	75.0§	74.3	0.99	1.13	1.56	–	0.80	nil
Sweden	+ 14.2	Oct	+ 8.0	Sep	+ 3.3	+ 3.3	78.4	74.2	9.02	10.6	14.2	9.02	7.31	1.7
Switzerland	+ 4.4	Oct	+ 22.7	Q2	+10.2	+10.5	114.4	112.0	1.46	1.66	2.30	1.46	1.18	na
United States	−452.7	Sep	−428.8	Q2	− 4.8	− 5.0	113.1	120.1	–	–	1.58	1.00	0.81	-3.1
Euro area	+ 95.6	Sep	+ 38.0	Sep	+ 0.6	+ 0.6	83.2	78.9	0.99	1.13	1.56	–	0.80	-2.2
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 13.1	Sep	+ 9.5	Sep	na	na	79.0§	78.8	1.00	1.13	1.58	–	0.81	3.2
Greece	− 20.3	Sep	− 7.8	Sep	na	na	58.1§	57.5	1.00	1.13	1.58	–	0.81	-1.1
Iceland	+ 0.2	Oct	− 0.1	Q2	na	na	93.5**	86.8	85.1	108.7	134	85.1	69.0	0.3
Ireland	+ 34.7	Sep	+ 0.4	Q2	na	na	89.2§	87.7	1.00	1.13	1.58	–	0.81	-0.5
Luxembourg	− 2.7	Sep	+ 2.1	Q2	na	na	100.1§	99.1	1.00	1.13	1.58	–	0.81	1.8
New Zealand	− 0.4	Oct	− 1.3	Q2	na	na	91.4	80.5	2.00	2.41	3.15	2.00	1.62	1.6
Norway	+ 24.5	Oct	+ 25.6	Sep	na	na	106.1	96.0	7.27	8.99	11.5	7.27	5.89	12.4
Portugal	− 12.6	Sep	− 9.8	Sep	na	na	91.1**	90.1	1.00	1.13	1.58	–	0.81	-3.4

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, October average. ‡OECD forecast. **IMF, August average.

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Ethics ratings

Dec 12th 2002
From The Economist print edition

Management & Excellence, a management rating agency, ranks American companies on their ability to act amid the "ethical risks" stemming from their industry (eg, tobacco), their internal policies, and the laws and customs of the countries where they trade.

Ethics ratings
Selected US companies, 2002

Company	Rating*	Company	Rating*
Fannie Mae	Aaa	Ford	Bba
Merck	Aaa	AIG	Bbb
General Electric	A-aa	Boeing	Bbb
Verizon	A-aa	Home Depot	Bbb
Wal-Mart	A-aa	J.P. Morgan Chase	Bbb
Citigroup	B+aa	Philip Morris	Bbb
General Motors	B+aa	State Farm	Bbb
IBM	B+aa	Reliant	Ccb

*First letter of the ranking refers to performance over the past five years; second to the short-term future; third to the long-term future
Source: Management & Excellence

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Overview

Dec 12th 2002
From The Economist print edition

Turkey's economy grew by 7.9% in the year to the third quarter, down from 8.8% in the year to the second quarter.

Just as **Brazil's** new left-wing government is starting to craft its economic policy, the old foe of inflation is starting to rear its head again: consumer prices rose by 10.9% in the year to November, the first time the country's inflation has been in double figures since November 1996. Elsewhere in Latin America**, Chile's** consumer-price inflation was unchanged at 3.0%, **Colombia's** rose to 7.1% and **Mexico's** climbed to 5.4%.

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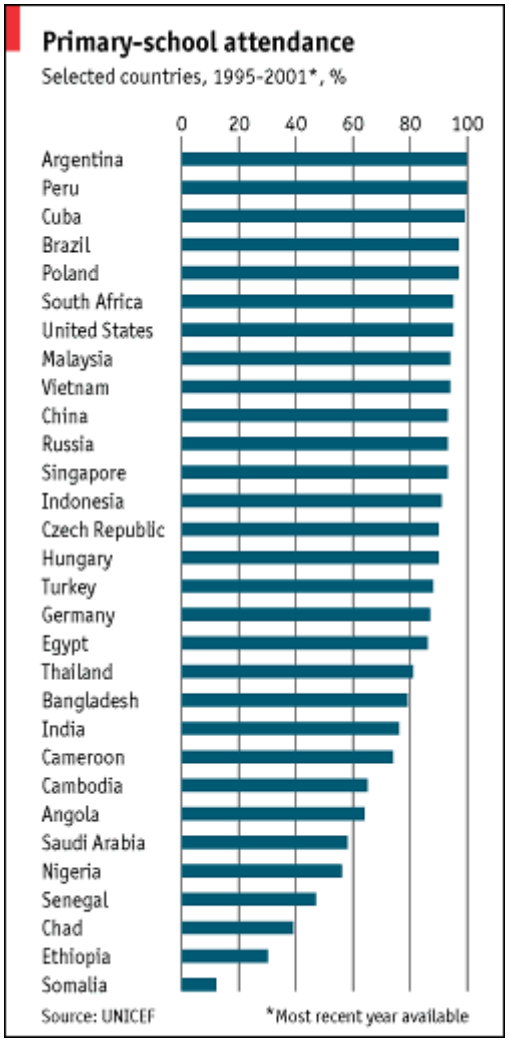
Primary-school attendance

Dec 12th 2002
From The Economist print edition

An estimated 120m primary-school-age children are not in school, according to *The State of the World's Children 2003*, a new report from the United Nations Children's Fund (UNICEF). Girls are particularly likely to miss out: more than 50m primary-school-age girls are out of school in sub-Saharan Africa and South Asia alone. Some poor countries, such as Cuba, have put most of their children into classes; other poor places, such as Ethiopia, are lagging. UNICEF believes that education is critical not only for economic growth but also for youngsters' welfare.



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Economy

Dec 12th 2002
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	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 8.1	Q3	+14.5	Nov	– 0.8	Oct	+30.0	Oct	+17.4	2001	263.0	Sep
Hong Kong	+ 3.3	Q3	–11.2	Q2	– 3.6	Oct	– 7.7	Oct	+15.7	Q2	111.0	Nov
India	+ 6.0	Q2	+ 6.1	Sep	+ 4.1	Oct	– 6.1	Oct	+ 2.0	Q2	63.6	Nov
Indonesia	+ 3.9	Q3	– 7.6	Jul‡	+10.5	Nov	+26.3	Oct	+ 6.9	Q2	29.0	Oct
Malaysia	+ 5.6	Q3	+ 6.4	Oct	+ 2.1	Oct	+13.0	Oct	+ 6.9	Q2	32.7	Oct
Philippines	+ 3.8	Q3	– 4.9	Sep	+ 2.5	Nov	+ 2.6	Sep	+ 5.9	Aug	12.9	Nov
Singapore	+ 3.9	Q3	+11.8	Oct	– 0.2	Oct	+ 7.8	Oct	+18.9	Q3	80.2	Nov
South Korea	+ 5.8	Q3	+12.7	Oct	+ 3.5	Nov	+11.3	Nov	+ 6.2	Oct	116.3	Oct
Taiwan	+ 4.8	Q3	+ 7.4	Oct	– 0.6	Nov	+18.1	Nov	+25.0	Q3	159.1	Nov
Thailand	+ 5.1	Q2	+ 8.9	Oct	+ 1.2	Nov	+ 4.7	Oct	+ 7.5	Oct	36.4	Oct
Argentina	–13.6	Q2	– 3.4	Oct	+40.5	Nov	+15.6	Oct	+ 3.9	Q2	9.9	Oct
Brazil	+ 2.4	Q3	+ 8.9	Oct	+10.9	Nov	+12.2	Nov	–10.8	Oct	35.9	Oct
Chile	+ 1.8	Q3	+ 7.1	Oct	+ 3.0	Nov	+ 2.6	Oct	+ 0.9	Q3	14.9	Oct
Colombia	+ 1.9	Q3	+ 2.8	Sep	+ 7.1	Nov	+ 0.2	Sep	– 1.3	Q2	10.6	Oct
Mexico	+ 1.8	Q3	– 0.6	Sep	+ 5.4	Nov	– 8.8	Oct	–16.1	Q3	46.1	Oct
Peru	+ 7.3	Sep	+ 3.1	Oct	+ 1.5	Nov	+ 0.3	Sep	– 1.0	Q3	9.4	Oct
Venezuela	– 5.5	Q3	– 6.6	Jul	+30.7	Nov	+11.4	Q3	+ 4.9	Q3	8.2	Sep
Egypt	+ 4.9	2001†	+ 7.8	2001†	+ 2.8	Oct	– 8.0	Aug	nil	Q2	12.8	Aug
Israel	– 0.8	Q3	– 0.2	Sep	+ 6.9	Oct	– 6.3	Nov	– 2.6	Q2	24.1	Nov
South Africa	+ 3.1	Q3	+ 4.3	Oct	+14.5	Oct	+ 3.7	Oct	nil	Q3	6.0	Oct
Turkey	+ 7.9	Q3	+11.8	Oct	+31.8	Nov	–11.7	Sep	+ 0.8	Sep	25.6	Oct
Czech Republic	+ 1.5	Q3	+ 3.5	Oct	+ 0.5	Nov	– 3.0	Oct	– 4.2	Q3	22.5	Nov
Hungary	+ 3.4	Q3	– 0.6	Oct	+ 4.8	Nov	– 2.9	Oct	– 2.9	Oct	9.7	Oct
Poland	+ 0.8	Q2	+ 3.2	Oct	+ 1.1	Oct	–10.1	Oct	– 6.3	Oct	28.5	Nov
Russia	+ 4.1	Q2	+ 3.9	Oct	+15.2	Nov	+44.1	Oct	+27.6	Q3	43.0	Oct
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Pakistan	+ 3.3	2001†	– 0.5	Jun	+ 3.5	Oct	– 1.2	Nov	+ 2.7	2002†	6.8	Oct
Saudi Arabia	+ 1.2	2001	na		– 0.5	Aug	+44.1	2001	+14.5	2001	20.2	Oct

*Excluding gold, except Singapore; IMF definition. †Year ending June. ‡New series.
Sources: National statistics offices, central banks and stock exchanges; Thomson Financial Datastream; Economist Intelligence Unit; Reuters; Warburg Dillon Read; J.P Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Garanti Bank; Deutsche Bank; *Russian Economic Trends*.

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Financial markets

Dec 12th 2002
From The Economist print edition

	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Dec 11th		Dec 31st 2001	
	Dec 11th	year ago	Dec 11th	% p.a.		one week	in local currency	in $ terms
China	8.28	8.28	13.0	na	1,441.7	-2.5	- 15.8	- 15.8
Hong Kong	7.80	7.80	12.3	1.54	9,784.6	-2.1	- 14.1	- 14.2
India	48.2	47.8	75.9	5.19	3,303.3	+3.0	+ 1.3	+ 1.3
Indonesia	8,885	10,025	14,001	13.73	391.7	-1.3	- 0.1	+ 17.0
Malaysia	3.80	3.80	5.99	3.10	635.2	+2.7	- 8.8	- 8.8
Philippines	53.3	52.0	84.0	6.81	1,013.6	-2.2	- 13.2	- 16.0
Singapore	1.76	1.83	2.78	0.88	1,374.4	+0.6	- 15.3	- 11.3
South Korea	1,208	1,269	1,903	4.90	698.6	-2.2	+ 0.7	+ 9.5
Taiwan	34.8	34.4	54.8	1.80	4,699.4	-0.6	- 15.3	- 14.8
Thailand	43.4	43.7	68.3	1.91	365.5	+0.1	+ 20.3	+ 22.7
Argentina	3.51	1.00	5.52	6.40	490.0	-4.9	+ 65.9	- 52.7
Brazil	3.80	2.36	5.99	21.91	10,613.6	-0.2	- 21.8	- 52.4
Chile	697	668	1,099	2.76	4,897.2	+1.7	- 9.3	- 14.0
Colombia	2,798	2,307	4,410	7.85	1,520.5	+2.2	+ 42.0	+ 15.6
Mexico	10.18	9.14	16.0	7.19	6,135.4	-0.8	- 3.7	- 13.3
Peru	3.52	3.43	5.54	3.53	1,378.8	-0.1	+ 17.3	+ 14.9
Venezuela	1,303	751	2,053	30.64	8,015.2§	na	+ 22.0	- 29.1
Egypt	4.63	4.27	7.30	6.17	5,415.8	-0.2	+ 2.7	+ 1.4
Israel	4.66	4.23	7.34	6.45	365.8	+1.3	- 18.1	- 22.4
South Africa	8.9	11.10	14.0	13.50	9,066.1	-4.9	- 13.2	+ 17.2
Turkey	1,562,500	1,430,500	2,462,188	41.00	12,717.3	-4.3	- 7.7	- 14.1
Czech Republic	30.8	36.4	48.5	2.64	464.9	+3.4	+ 17.8	+ 36.2
Hungary	234	277	369	8.68	7,726.8	-3.7	+ 8.4	+ 27.2
Poland	3.96	4.05	6.23	6.80	14,408.8	-2.9	+ 3.5	+ 3.4
Russia	31.9	30.1	50.2	21.00	342.6‡	-1.0	+ 37.6	+ 31.7
EMF (MSCI)*	1.00	1.00	1.58	na	297.0	-1.1	na	- 6.4
EMBI+†	1.00	1.00	1.58	na	224.7	+0.8	na	+ 12.2

*Emerging Mkts Free. †J.P. Morgan Chase's Emerging Mkts Bond Index Plus. ‡In $ terms. §Nov 29th.
Sources: National statistics offices, central banks and stock exchanges; Thomson Financial Datastream; Economist Intelligence Unit; Reuters; Warburg Dillon Read; JP Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Garanti Bank; Deutsche Bank; *Russian Economic Trends*.

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